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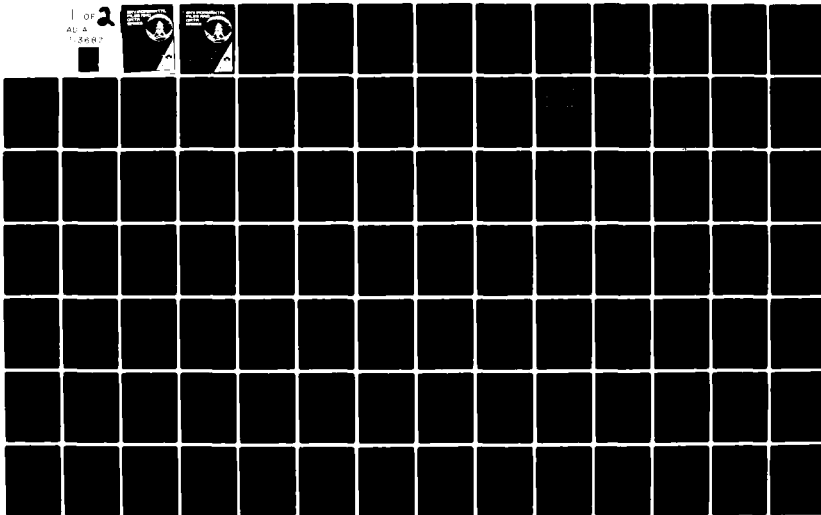
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ENVIRONMENTAL FILES AND DATA BASES



DATA HOLDINGS
OF THE NAVAL
OCEANOGRAPHIC
OFFICE

CARL W. MILLER
EDITOR

SEPTEMBER 1981

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PREPARED BY
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ENVIRONMENTAL FILES AND DATA BASES

**PART A:
INTRODUCTION
AND OCEANOGRAPHIC
MANAGEMENT
INFORMATION SYSTEM**



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FOREWORD

The military advantage, especially in time of crises, belongs to the nation which possesses the best environmental information. This information originates from the collection and analysis of data upon which strategic products are predicated. Many Naval and other service offensive and defensive operations, as well as weapon systems, are dependent upon environmental data. For this reason, it has become increasingly important to identify and describe the data holdings of the Naval Oceanographic Office. The purpose of Environmental Files and Data Bases is to describe these data bases and to permit and encourage their successful exploitation for military applications.



C. H. BASSETT
Captain, USN
Commanding Officer

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Data File	Environmental Data	Bathymetric
Data Base	Oceanographic Data	Geomagnetic
Data Index	Acoustic	Gravimetric
Data Inventory	Underwater Sound	Hydrographic
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) "Environmental Files and Data Bases" provides information about the environmental data holdings of the U.S. Naval Oceanographic Office. The chapters contain descriptions and summaries of the Oceanographic Management Information System's services, acoustic, bathymetric, geomagnetic, gravimetric, hydrographic, marine geological, physical oceanographic, climatological, biological, and other types of data of significance to producers of data and data products. A loose-leaf format allows updating		

19. KEY WORDS (CONTINUED)

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Physical Oceanographic
Climatological
Biological
Oceanographic Management Information System
Naval Oceanography Program
Naval Oceanographic Requirements
Acoustic Reference Service
Research Vehicle Reference Service
Oceanographic Technology Information Service
Environmental Reference Service
Oceanographic Environmental Reference Service
Coastal Environmental Reference Service

20. ABSTRACT (CONTINUED)

of separate chapter units, when appropriate.

CHAPTER 1

INTRODUCTION

ACKNOWLEDGEMENTS

The materials in this reference publication are those of the authors named in each chapter, not the editor, as they should be. A few changes have been made in the organization of the material and in some of the words and phrases to make the text easier to read. It is hoped that these changes have not destroyed any of the concepts of the authors.

The preparation of this publication was made possible with the support of many individuals representing the organizational components responsible for the environmental files and data bases. Most, but not all, of these individuals are named as custodians for the files and data bases summarized within this publication. Without their assistance and cooperation, this publication would not have been possible.

CARL W. MILLER



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CHAPTER 1

INTRODUCTION

The Naval Oceanographic Office (NAVOCEANO) has a fundamental mission of collecting and processing environmental data and providing information to meet military needs. Utilization is the prime motive for data collection and processing. Environmental information in various forms is used for naval and other service planning and decision making. The main client, the Navy, forms a large, distinct, visible, homogeneous user community that must have environmental information to operate on, below and above the surface of the ocean.

The broad mission for NAVOCEANO is to efficiently and effectively provide environmental data and information to all authorized users. In the flow of data, NAVOCEANO has a special position. It is a major collector, supplier and user of environmental data. From this perspective, it promotes an orderly and expeditious flow of data between collecting sources and the appropriate DOD or national data storage and dissemination facilities.

Environmental data are originated by recorded observations and numerical measurements taken on, below and above the sea surface, using a wide variety of platforms and equipment systems. NAVOCEANO operates twelve ships and three aircraft for the purpose of acquiring environmental data which are processed and utilized in conjunction with holdings obtained from other federal facilities.

PURPOSE

The primary purpose of "Environmental Files and Data Bases" is to provide a comprehensive reference to the significant data holdings of NAVOCEANO for the Department of the Navy (DON) and other DOD components. The descriptions of data holdings contained in the publication serve scientists and managers as a reference on the availability of data and the designated contacts for their retrieval. The preceding publication, "Naval Oceanographic Data File Summary," TN 3007-1-77, by J.S. Wilkerson, was issued in January 1977. Since that time, numerous changes have taken place in the NAVOCEANO organization, contact points, and data holdings. Information from Wilkerson's publication will be incorporated into the new publication (where applicable). The need for a new publication arises because of the growing number and increasing complexity of the data requirements. The use of satellites and other types of platforms, along with new instruments and techniques, are increasing the volume and improving the quality of data available for use on a global basis. In addition, changes in NAVOCEANO's organization and assigned mission require that new types of data, along with current holdings, be utilized for the development of new product lines.

FORMAT

The loose-leaf format will facilitate the separate publication and issuance of chapters as well as the timely updating of the content which is evolutionary and dynamic. RP-36 will increase in value as new information is added.

This publication is divided into seven chapters, each providing essentially complete coverage of a single subject or a major type of data. Whenever revisions are required, the entire chapter will be reissued with an appropriate revision label. The table of contents will be revised as needed. When all of the chapters have been published, they can be assembled in one binder and made available to external DOD users as a complete reference publication.

The chapter is the unit of publication and revision, therefore, pages are numbered by chapters, each chapter starting with page one. Figures and tables are numbered consecutively within each chapter. Occasionally, a bibliography or an appendix is included at the end of each chapter. Centered headings, free-standing and paragraph side headings are employed to identify main divisions and subdivisions within each chapter to aid in classification and to facilitate reference. Major changes in the subject matter will be handled by revising and reissuing the chapter concerned; minor changes or corrections of errors may be issued as errata notices, dated for identification.

OBJECTIVE

The basic objective of this publication is to provide guidance for offices, commands, and activities of the Department of the Navy (DON) and the Department of Defense (DOD) in the acquisition of required environmental data, data products and data services. It is addressed primarily to the users of environmental data engaged in the production of data products for naval warfare and support areas. More detailed information is available upon request from the data custodians indicated on the "Environmental File and Data Base Summary" pages.

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CHAPTER 2

THE OCEANOGRAPHIC MANAGEMENT
INFORMATION SYSTEM

CHAPTER 2

THE OCEANOGRAPHIC MANAGEMENT INFORMATION SYSTEM

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CHAPTER 2

THE OCEANOGRAPHIC MANAGEMENT INFORMATION SYSTEM

by

CARL W. MILLER

INTRODUCTION

The Naval Oceanography Program (NOP) encompasses that body of science, technology, engineering, operations, and the personnel and facilities associated with each, which is essential to explore and to lay the basis for exploitation of the ocean and its boundaries for naval applications, to enhance security and to support other national objectives. Responsibility for the Naval Oceanography Program has been assigned to the should read: Chief of Naval Operations (CNO), Director, Oceanography Division, (OP-952) whose mission is to act as the Navy Oceanography Program Director for the Chief of Naval Operations and to exercise centralized authority, direction, and control, including control of resources, in order to ensure an integrated and effective Naval Oceanography Program.

On 1 October 1978, the Naval Oceanography Command was established and, in support of the CNO (OP-952) was tasked with the management and control of Oceanography, Meteorology, and Mapping, Charting and Geodesy (MC&G) as it currently exists within the Naval Oceanography Program. In response to this need, the Oceanographic Management Information System (OMIS) was developed.

OMIS has as its basic objective the design, implementation, and maintenance of a management information system that is responsive to the technical and administrative needs of the CNO (OP-952) the Commander, Naval Oceanography Command (COMNAVOCEANCOM), the staffs and subordinate commands and other cognizant organizations. OMIS presently addresses the broad categories of Oceanography, Meteorology, and Mapping, Charting and Geodesy (MC&G). Programs, requirements, environmental and acoustic data, technology, and research and survey vessels are indexed and inventoried within their respective subsets. Current and pertinent information is provided on a real-time basis upon request through the OMIS staff and by direct computer interface using remote terminals.

OMIS personnel extract, edit, collate, and evaluate information essential to the decision making processes of the oceanographic effort within the Department of the Navy. Technology, environmental data, programs, and personnel are recorded in six OMIS subsets: (1) the Naval Oceanography Program (NOP), (2) Naval Oceanographic Requirements (NOR), (3) the Acoustic Reference Service (ARS), (4) the Research Vehicle Reference

Service (RVRS), (5) the Oceanographic Technology Information Service (OTIS), and (6) the Environmental Reference Service (ERS) which contains the two internal subsets Oceanographic Environmental Reference Service (OERS) and Coastal Environmental Reference Service (CERS).

Each of these six data bases was designed and implemented utilizing an heuristic approach. Users were intimately involved in the developmental stage thus ensuring the design of systems that were reflexive of and responsive to existing needs. The responsibility for editing, updating and maintaining data submitted for assimilation into the current subsets lies with the user and, therefore, encourages continued user participation. The overall OMIS system contains data and data linkages which are appropriate, current, accurate, complete, readily accessible, capable of being updated, and able to be modified or reorganized to reflect changes in user requirements. OMIS contains no information subject to the Privacy Act of 1974. All classifi data is maintained in accordance with administrative and technical guidance provided by those COMNAVOCEANCOM personnel responsible for handling and overseeing such information.

THE NAVAL OCEANOGRAPHY PROGRAM SUBSET

The Naval Oceanography Program (NOP) subset addresses the full scope of Naval Oceanography which includes three areas of specialization: (1) Mapping, Charting and Geodesy (MC&G), (2) Meteorology, and (3) Oceanography. Programs and efforts that fall within the purview of the CNO (OP-952) are captured and placed within NOP. Unique, coherent blocks of salient information are logically and analytically formatted and are easily retrieved from this management-oriented system. Each component is depicted qualitatively and includes such items as title, sponsor, performing organization, point of contact, products generated, services performed, project descriptors, manpower, funding program, element description, overall costs, etc. (For a complete list of data elements see Appendix 2A.)

The utility of NOP was ensured through the intimate involvement of the primary users. The design, implementation, and maintenance of the prototype system was influenced by those cognizant managers who wanted a functional, automated management information system which reflected corporate knowledge. Development has continued beyond the prototype to an on-line operational resource and data information network. NOP affords an opportunity for dynamic data flow within the claimancy and, therefore, is able to serve CNO (OP-952) and COMNAVOCEANCOM, the staffs, and their subordinate commands.

Individual projects and efforts making up the program are described as unique records and range from the various research and development categories (6.1 through 6.6) to operational tasks. The NOP subset may be directly accessed through the use of a remote/on-line terminal via an unclassified line to the computer facility. Unclassified material is available for immediate query while classified searches must be coordinated through the Functional Sponsor, the Functional Manager, or the OMIS staff Subject Matter Specialist.

The system currently permits interactive queries where the search strategy is defined by the logical linking of specific descriptor states. R&D as well as operational data are easily retrieved and evaluated. A report writing capability exists allowing variable output generation.

The system currently permits interactive queries where the search strategy is defined by the logical linking of specific descriptor states. R&D as well as operational data are easily retrieved and evaluated. A report writing capability exists allowing variable output generation.

Maintenance of R&D information is partially accomplished through the direct accessing of the Defense Technical Information Center's DROLS (Defense Research, Development, Technology and Evaluation On-Line System). Direct access is defined here as the ability to access the data base in an interactive mode through use of a remote/on-line terminal via an unclassified line to the computer facility. Compilation and preparation of information into machine readable form is repeated on a yearly cycle in harmony with each fiscal year's funding of R&D projects. This process involves the establishment of NOP boundaries as interpreted by COMNAVOCEANCOM staff. Records are added to the current file in a timely manner as they become available throughout the fiscal year.

Compilation and forwarding of the information records defining the operational projects is the responsibility of each operational command within the claimancy as directed and under guidance provided by COMNAVOCEANCOM. Coordinating entry into the NOP of the compiled information is the responsibility of the OMIS staff. These components are delineated primarily by products, services performed, or discrete projects supported by the operationally-oriented commands. A Base Operational Support record also is prepared for each command to cover those resources not specifically dedicated to a particular set of products or support efforts. These records are updated by the operational commands semi-annually or as required.

The ability to link the R&D and operational records to the Naval Oceanographic Requirements subset or any other section of the OMIS is a significant strength of the system. Links are made directly with specific data elements common to both subsets and in a more general, qualitative manner by the use of descriptive terms which categorize the information records. In Appendix 2C, a descriptor term Thesaurus, which is used to describe all NOP component records, is shown.

The NOP data base is used as a management tool and, therefore, is responsive to the users' needs. It also affords an opportunity for the flow of information throughout the claimancy dispensing salient Naval Oceanography Program data to managers. Compilation and preparation of information into machine readable format is the responsibility of the Subject Matter Specialist. All requests for services should be directed to: NOP Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, Mississippi 39522, 601-688-4497.

THE NAVAL OCEANOGRAPHIC REQUIREMENTS SUBSET

The Naval Oceanographic Requirements (NOR) subset provides the mechanism for identifying and tracking those Navy requirements on which the Naval Oceanographic Program is predicated. This system facilitates the collection, analysis, prioritization, validation, and indexing of the requirements, as well as, aids in the accounting of both formal and informal requirements and requests for services.

Individual records are synoptically formatted thus highlighting pertinent information and ensuring efficient retrieval. Each frame is depicted qualitatively and includes such items as performing organization, Fleet point of contact, project descriptors, Naval Warfare Areas, topic, reference documentation, etc. (For a complete list of data elements see Appendix 2B.)

As with the NOP, the utility of NOR was ensured through the intimate involvement of the primary users. The design, implementation, and maintenance of the prototype system was influenced by those managers who wanted a functional, automated management information system which reflected corporate knowledge. Development has continued beyond the prototype to an on-line operational resource and data information network. NOR affords an opportunity for dynamic data flow within the claimancy and, therefore, is able to serve CNO (OP-952) and COMNAVOCEANCOM, the staffs, and their subordinate commands.

The NOR enables managers to track incoming requirements as they move through their respective life cycles. Each cycle is threefold in nature including three separate and distinct phases: 1) validation; 2) performance; and 3) evaluation. Incoming requirements, whether they are Fleet, documented systems, deduced or in-house, are initially coded on NOR data forms and entered manually into the system. After a preliminary appraisal by cognizant managers, requirements and/or requests for services are forwarded to the CNO for validation. Upon approval, they are then passed on to the appropriate action organizations. Upon completion, a dialogue with the Fleet Point of Contact Command is established and the results are evaluated in light of the original request. The NOR is involved in the tracking of these requirements as they progress through each phase.

Individual projects and efforts making up the program are described as unique records. The NOR subset may be directly accessed through the use of a remote/on-line terminal via an unclassified line to the computer facility. Unclassified material is available for immediate query while classified searches must be coordinated through the Functional Sponsor, the Functional Manager, or the OMIS staff Subject Matter Specialist. (For a Directory of staff personnel see Appendix 2M.)

The system currently permits interactive queries where the search is defined by the logical linking of specific descriptor states. (For a complete list of descriptors see Appendix 2C.) Operational data is easily retrieved and evaluated. A report writing capability exists allowing variable output generation. Response time for unclassified information will be immediate, limited only by computer system interactive time. Time for classified information is from several hours to several days depending on the site to which the information is to be forwarded, the complexity of the query and the transfer procedures (secure facsimile, message, mail) to be used.

All requests for services will be directed to: NOR Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, Mississippi 39522, 601-688-4497.

THE ACOUSTIC REFERENCE SYSTEM SUBSET

The need to share acoustic and oceanographic data has been long recognized at all levels. The Naval Sea Systems Underwater Acoustic Data Bank (NAVDAB), the Naval Ocean Systems Center (NOSC) Naval Underwater Acoustic Inventory Referral System (NUAIRS), and the Acoustic Environmental Support Detachment (AESD) Computerized Ambient Noise Bibliography, characterize previous undertakings. Consideration of these as well as the Long-Range Acoustic Propagation Project (LRAPP) Environmental Acoustic Data Bank are reflected in the design and content of the Acoustic Reference System (ARS).

To be useful, an information system must be vibrant. As applications evolve, the system must respond with changes in structure, content, and organization. The initial development work on the ARS was delivered to COMNAVOCEANCOM in December 1979. Since that date, the data base has doubled in record number, new routines have been added, and further segmentation has reduced its storage requirements.

The ARS is a dynamic inventory of acoustic measurements and ancillary environmental observations and is the latest of several vehicles designed to facilitate the sharing of acoustic information within the oceanographic community. It encompasses, in a reference form, the depositories of NAVDAB, NUAIRS, SEAS, DTIC, DTIS and the Lockheed Bibliographic Service. Records of acoustic data collections can be individually selected or collectively analyzed for management purposes.

The ARS is designed to enable a quick, thorough, authoritative research of accomplished, pending, and planned acoustic measurements plus supporting environmental observations. The system contains information from all sectors of the acoustic community, foreign and domestic. Updates are made at least weekly by the Subject Matter Specialist of the Oceanographic Management Information System (OMIS) staff. Information is obtained through personal contact and routine review of messages, documents, and journals, as well as through several automated bibliographic services such as Defense Technical Information Center (DTIC) and National Technical Information Service (NTIS).

Although no actual acoustic data are maintained within the reference service, the system reveals the existence of scientific papers, technical reports, models and data bases where the data may be found. Point of contact information includes cognizant person or author, agency, sponsor, telephone number and address. Other descriptor items embrace type of measurement, frequencies, operation dates, coordinates, and geographic area.

Information appearing in items 1-52 of Appendix 2D are described in the system as descriptor states and may be fully sorted and searched on the computer. These items may be searched singly or in combination. To assist the user with term identification and abbreviations, a Vertical Report is available. The report is coupled to a trailing paragraph which spells out titles of reports, addresses, and other contact information. If no information has been input for a given descriptor, number and name will be suppressed in output.

For those with restricted sectors of interest, the ARS may be divided into five major groups of measurement types:

AMBIENT NOISE
TRANSMISSION LOSS
BOTTOM LOSS
REVERBERATION LEVEL
TARGET/SIGNAL DETECTION

The specialized entry routines will access only one group, thereby hastening all activities and sparing computer facilities.

Both classified and unclassified versions of the ARS are maintained at NAVOCEANO. Access to the secured files will be through the Functional Sponsor, Functional Manager, or through the OMIS Staff Subject Matter Specialist. (For a directory of OMIS personnel see Appendix 2M.) This computer is presently available by remote line from 0800 to 1700 CST during normal work days. Issuance of new identification codes, passwords, etc. can be coordinated through the OMIS staff at NAVOCEANO. No additional provisions are required for those who already have approval for other OMIS subsets. Valid computer telephone lines include:

AUTOVON	485-4729
FTS	494-4729
COMMERCIAL	601-688-4729
NSTL EXTENSION	4729

Full LOG-ON procedures will be provided with password issuance.

The ARS is maintained through the CREATABASE data management system developed by the DANIEL ANALYTICAL SERVICES CORPORATION. Plain English is translated by the software to interact with a data dictionary and associated compressed file. A full suite of graphics are available within the CREATABASE software. To bring this output option within the grasp of casual users or hurried researchers, a series of standard base charts for principal ocean areas have been prepared. The graphics routines offered for the ARS are currently set for CALCOMP model 905 or 915/936 drum plotters. Other devices will be accommodated upon request.

To enable a quick look at survey distribution among oceans and density within a given region, coordinate grids may be rapidly displayed on any computer printer. For convenience, these routines have been canned and sized for standard teletype remote terminal devices, to include: CD MINITERM, TI SILENT 700, BELL TYPE 43, and others.

The ARS answers questions about data holdings relating to acoustics. Its source material includes many previously developed summary files and as such, is probably the best general acoustic reference keyed to oceanographic interests. A complete list of descriptors for ARS can be found in Appendix 2D.

Improvements could be attained through better resolution of the TARGET/SIGNAL DETECTION information to be cataloged. Likewise more attention may be deserved for specialized acoustic support surveys; i.e., microstructure, internal waves, detailed sound velocity profiles.

The CREATABASE software module is a proven package, well suited to the needs of an automated bibliography or reference service. The commonality of both the ARS and the LRAPP Data Base within the same software should be an incentive for its use by acousticians.

As a management information subset, the ARS is pledged to rapid response, comprehensive holdings, and an accessible format. The strength of the ARS is its ability to evolve; its ultimate value will depend upon the extent to which it is stimulated by the user community.

A Subject Matter Specialist or "man-in-the-loop" is available for technical assistance, classified queries, mail or telephone requests. User participation, information input, and constructive feedback are encouraged. All responses should be directed to: ARS Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, Mississippi 39522, 601-688-4497.

THE RESEARCH VEHICLE REFERENCE SERVICE SUBSET

The Research Vehicle Reference Service (RVRS) is a computer-based, interactive information system developed to provide the identity, current location, latest schedule, and physical characteristics of federally operated oceanographic research and survey ships and planes. It is interfaced with multiple sources and users for input and extraction of information through remote terminals. RVRS allows analysis of Fleet operations by identifying platform availability, ship utilization, and Fleet capability for oceanographic managers, ship operators, and those in need of platform support.

The RVRS has been developed as a point source for information on oceanographic research and survey platform assets. It also serves as a communication link within the Naval oceanographic community, as well as a means of coordinating the operation of Naval and civilian platforms. The RVRS provides identification of manned oceanographic vehicles, i.e., ships, planes, submersibles or platforms that are used in the research and survey effort. For each of these vehicles, the RVRS makes provision for the latest position reports, current and past schedules, physical characteristics, and points-of-contact for both the physical condition and the operation of the vehicle. The primary concentration of effort is currently placed upon the tracking of platforms within the Department of the Navy, NOAA, and the University-National Oceanographic Laboratory System (UNOLS).

The RVRS is able to answer seven basic user-oriented questions:

1. What is the latest reported position of ship
2. What is the schedule (within a given time frame) for ship
3. Which ships are scheduled (within a given time frame) to be in a certain ocean area?
4. Which ships are (at last report) within a given set of coordinates?
5. Who is the point of contact for ship
6. What is the check list information for a cruise number?
7. What descriptive information is available for ship

The RVRS is able to respond to the above questions by utilizing an Interactive Data Retrieval Program. Information pertaining to schedule, location, and description is made available by a prompt/response interaction based upon one of the seven different questions. Once a question is selected, the user is prompted for information such as "date range" or "latitude/longitude range." When the program has the proper selection parameters, it searches the data base gathering and displaying the information requested. If no information exists for a specific "date range," the user is told so by the computer.

Figure 1 illustrates several hierarchical relationships that exist between information records. These relationships provide for an "owner/member" set of information to exist. For example, each vehicle described in the data base "owns" a characteristic description record along with several other records of information. The "member" records may also participate in the overall network as "owner" records. To illustrate, the schedule record is a "member" in sets belonging to the vehicle record and the supporting program record, but it is also an "owner" of the check list record.

A second software package, the RVRS Position Update Program, allows direct and timely updating of ship position information in the RVRS data base. A user may add, modify, delete, or simply scan position information for a particular research vehicle. Each vehicle in the data base may have several position fixes. Although the latest entry may be the most important, all existing entries are accessible through this program. A vehicle's position entries are automatically ordered by date-time, with the most current being first. These positions are also grouped by the 'CURRENT MISSION' being carried out by the ship at that time.

A third program, the RVRS Schedule Update Program allows, direct and timely updating of ship schedule information in the RVRS data base. A user may add, modify, delete, or simply scan schedule information for a particular research vehicle. This program should be used when only a portion of the schedule is to be added, or when modification or deletions are to take place.

In the data base a vehicle's schedule entries are automatically ordered by the departure data when they are ADDED or MODIFIED. These schedule entries are also grouped by the 'PROGRAM' being supported by the ship at that time. Ready access to the latest version of a schedule for a research ship is available through a schedule retrieval module in this update program.

Conceivably, plots can be drawn and operations summaries made from a 'snapshot' of a ship's schedule or ship's position over a specified time span. Past schedule and position information will be available for the previous three to six months. Schedule information will be present for the current fiscal or calendar year(s). These specialized products are not currently provided as automated outputs of the system.

In addition to the standard queries which may be answered by the Retrieval Program, unique questions requiring sorts, comparisons or exclusions of any combination of specific data elements may be requested through the RVRS Subject Matter Specialist. For a complete listing of all descriptors see Appendix 2E. User participation, information input, and constructive feedback are encouraged. All responses should be directed to: RVRS Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, Mississippi 39522, 601-688-4497.

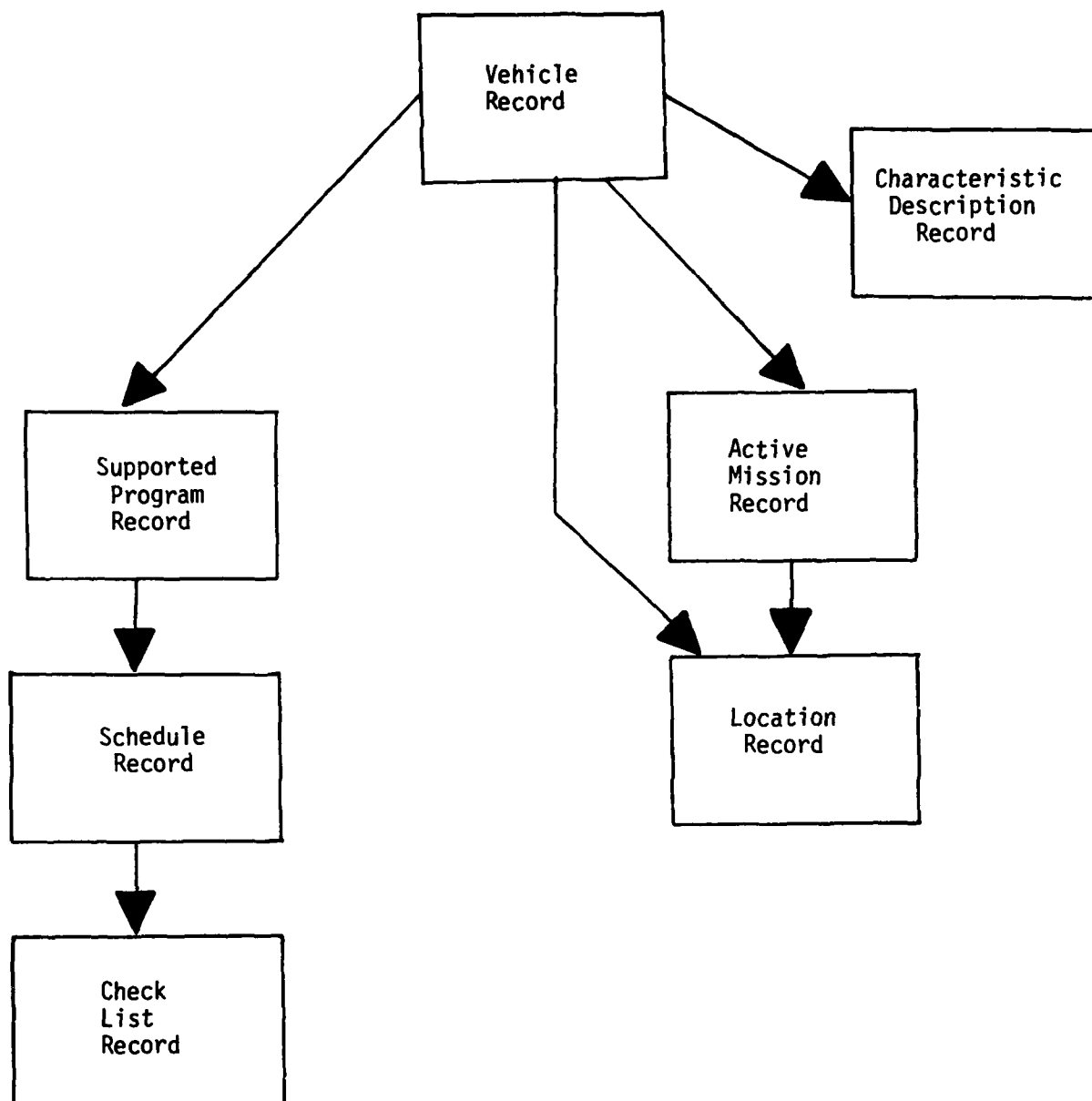


FIGURE 1
Graphic Representation of the
Research Vehicle Reference Service
Data Base

THE OCEANOGRAPHIC TECHNOLOGY INFORMATION SERVICE SUBSET

The Oceanographic Technology Information Service (OTIS) identifies, defines, and collates that oceanographic technology which currently supports Naval research and operations. Major technical areas included within the data bank are: 1) measurement and sampling systems and all associated hardware and instrumentation; 2) mathematical, physical, and computer models; 3) data reduction and analysis techniques; 4) facilities providing calibration, testing, data reduction and analysis, fabrication of hardware and other services; and 5) leading scientists, technicians and program coordinators involved in any of the above areas.

The OTIS satisfies the requirements for a current compendium of oceanographic technology and aids in administrative and technical assessment of oceanographic, meteorological, and MC&G tasks and programs. Additionally, it is used to link the various commands within the claimancy to common information concerning relevant oceanographic technology. The OTIS also links and complements other OMIS data bases. This is accomplished, in part, by incorporating the standard OMIS descriptors (shown in Appendix 2F) into each record.

Each frame contains a basic set of data elements which are unique to one of the five major technical areas found within the subset. (For a complete listing of these data elements, see Appendix 2F.) As with the NOP and NOR subsets, each component is depicted qualitatively and includes such items as title, status, platform, project name, sponsor organization, action organization and designator.

The OTIS is designed to answer such basic questions as:

- (1) What is the state-of-the-art in current meter design?
- (2) What kinds of equipment are available or are being developed for sensing wave heights and directions? What are their development statuses? What platforms are they associated with (ship, aircraft, underwater, etc.)?
- (3) What are the major operational meteorological models within and outside the Navy? Who are the action organizations and individuals involved?
- (4) What techniques are available for forecasting sea ice conditions?
- (5) What are currently achieved depth capabilities of fine-structure airborne expendable bathythermographs?
- (6) What documents have been published on the Coastal Ocean Dynamics Applications Radar (CODAR)? Is there anybody at the Naval Oceanographic Office with expert knowledge of this system?
- (7) What equipment does Scripps Marine Physical Laboratory maintain at San Vicente Lake near San Diego?

The OTIS Subject Matter Specialist is integrally involved in the query-response process of the system. This "man-in-the-loop" concept was implemented in order to facilitate thorough and complete searches. Upon receipt of a request, all available resources, both internal and external to the OTIS, are utilized thus providing a cogent and analytical response. The scope of the OTIS is very broad by virtue of its subject content and in order to maintain the necessary expertise, other data sources, in addition to the OTIS subset, are interrogated. These include: 1) The National Referral Center of the Library of Congress; 2) The Defense Technical Information Service; 3) Aquatic Sciences and Fisheries Abstracts; 4) Oceanic Abstracts; 5) The Infrared Information and Analysis Center (at ERIM); 6) The Coastal Engineering Information and Analysis Center (at CERC, U.S. Army Corps of Engineers); and 7) The NOAA Marine Instrumentation Catalog. Current information on these data sources can be accessed from the information retrieval program.

Development of the OTIS, as well as the other subsets, is under the direction and guidance of COMNAVOCEANCOM. In addition to COMNAVOCEANCOM, the OTIS serves the CNO (OP-952) staffs and subordinate commands. Current and potential users include: 1) NORDA; 2) NAVOCEANSYSCEN; 3) NAVENVPREDRSCHFAC; 4) NAVFACENGCOM; 5) NAVCOASTSYSCEN; 6) NAVPGSCOL; 7) NUSC; 8) NRL; 9) ONR; 10) NOAA; and 11) NSWC.

Direct access by remote terminal is available to qualified users. Computer response time is a function of the load on the UNIVAC system at the time of the query. Requests for information through the OTIS Subject Matter Specialist receive a turnaround time which varies depending upon the medium used for affecting the exchange of the desired data and the availability of the computer core time. Requests for classified information should be made through the Functional Sponsor, Functional Manager, or OTIS Subject Matter Specialist. (For a complete listing of the OMIS personnel see Appendix 2M.) The Subject Matter Specialist is available for technical assistance, mail or telephone requests. User participation, information input, and constructive feedback are encouraged. All responses should be directed to: OTIS Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, Mississippi 39522, 601-688-4497.

THE ENVIRONMENTAL REFERENCE SERVICE SUBSET

The Environmental Reference Service (ERS) satisfies the requirement for a system which indexes and inventories the environmental data captured in support of the Naval Oceanography Program. Information concerning the sampling, storage, accessibility, and publication of these data is available for collection efforts from 1960 to the present. It should be noted that the ERS is not a depository of the actual data, but a referral center pointing cognizant managers and users to the source.

THE OCEANOGRAPHIC ENVIRONMENTAL REFERENCE SERVICE

There are two internal subsets which, when combined, form the ERS: 1) The Oceanographic Environmental Reference Service, (OERS); and 2) The Coastal Environmental Reference Service (CERS). The Oceanographic Environmental Reference Service (OERS) is a subset of the Oceanographic Management Information System and serves as an index to Navy oceanographic data. It contains inventories of data collection efforts (e.g., oceanographic cruises, airborne acoustic studies, and biological study stations) and the types of data associated with each effort. Also included is information concerning who collected it, how much was collected, where was it collected, how it is stored, and who is the point of contact to retrieve the data.

The OERS data base also inventories reduced and reformatted data files and provides to the researcher the number of observations within each file for each 10-degree WMO (World Meteorological Organization) area. Some of the files include data for ocean stations, surface currents, mechanical bathythermographs (BT's), expendable bathythermographs (XBT's), SV/STD casts, and current meter observations.

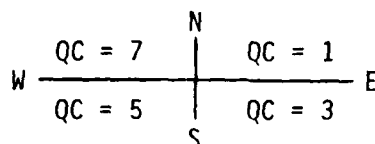
The OERS is intended to serve a dual purpose: 1) to provide information to managers and planners; and 2) to serve as a referral system for those who wish to access or retrieve data. In order to ensure system wide usage, a user-oriented, interactive retrieval program (OERS-RET) has been written.

The OERS has three types of data records: 1) Cruise Inventory; 2) Station Data; and 3) Underway Data Inventory. Each of these records is depicted qualitatively with their respective descriptor fields defined in Appendices 2G, 2H and 2I. The Cruise Inventory record provides for inclusion of information on the whole data collection effort while the other two types of records provide more detailed information about the environmental parameters observed during the cruise. For example, the Station Data Inventory form is used to record information about data collected while the platform or sensor is in a fixed position relative to the horizontal datum. The Underway Data Inventory record captures the data types listed under the "GU" Group (Geology, Geophysics, and Hydrograph Measurements Underway), Navigation (Group "N"), and continuous observations such as "H01" (continuous temperature recording). Data types and their groupings are defined in Appendix 2K. The data types were adapted from NODC's ROSCOP II Form and are further identified by the device or technique used to observe or measure the data.

The Station Data Inventory record is designed to be employed as a log sheet with entries being made as the data are collected. The date and the position are to be logged at the start of each station, with the remainder of the information added as it becomes available.

It is intended that Underway Data be summarized upon completion of the cruise and reported by WMO 10-degree. The WMO 10-degree area identification scheme is defined by the World Meteorological Organization (WMO) and has been adopted by the National Oceanographic data centers of many countries and their associated oceanographic institutions. This method can identify an area down to one minute by using a 10-digit number or as large as 10-degree

x 10-degree by using a four digit number. ERS input uses only the 4-digit 10-degree identifier. The following explanation shows how to construct this identifier: 1) The quadrant code (QC) is a one-digit number which identifies the quadrant of the world with respect to zero degrees latitude and zero degrees longitude. The following diagram shows this relationship:



2) The second digit is the ten digits of degrees latitude; 3) the third digit is the hundreds digit of degrees longitude; and 4) the fourth digit is the tens digit of degrees longitude. For example, New Orleans is 29 degrees, 56 minutes north latitude, 90 degrees, 04 minutes west longitude. The corresponding 10-degree identifier is 7209. This identifier defines the square from 20 to 30 degrees north latitude and from 90 to 100 degrees west longitude.

Any Department of Defense or DOD-contracted organization may be allowed access to information in this system. This access will depend on demonstrated needs. Frequent users may be given direct on-line access. Infrequent users and anyone wanting information requiring non-standard queries may have their questions answered through contacting the ERS Subject Matter Specialist. Any users having special requirements such as reports, can get their requirements met through the ERS Subject Matter Specialist also. All inquiries can be directed to: ERS Subject Matter Specialist, OMIS, NAVOCEANO, Code 5003, Bay St. Louis, Mississippi 39522.

THE COASTAL ENVIRONMENTAL REFERENCE SUBSET

The Coastal Environmental Reference Service (CERS) is a catalog or inventory of coastal data including how and where data were obtained, and of models pertaining to coastal dynamics. It does not contain the actual data. There are three types of data referenced by the system: (1) Real data which are actual measurements of physical variables, obtained in the field by instrument reading or sampling; (2) Synthetic data which are those generated by hindcasting, models or other productive methods, whether manual or computer, physical or numerical; and (3) Derived data which are values incorporated into the file only if they are obtained by unique or difficult procedure.

The data types have been separated into three groups, according to the perceived value of the data to Navy and research users: (1) Primary data are measurements of selected primary variables which are of greatest importance in the coastal environment: waves, wind, tides, currents, sediments, bathymetry or hydrography, and beach morphology; (2) Secondary data are measurements of all other coastal variables. Both primary and secondary data represent long measurement runs which can stand alone as inputs to coastal models, decision-making processes or scientific investigations; and (3) Complementary data represent measurements of primary or secondary variables

which are scattered through time so that they would be of little use independently, but might be useful if coupled with primary, secondary, or other complementary sources. All available information on each source is collected and evaluated by the above criteria. Accuracy checks are made at each step during the data input procedure.

The CERS was designed and implemented by the Department of Environmental Science, University of Virginia under ONR contract no. N00014-75-C-0480, R. Dolan and B. Hayden co-investigators. The implementation was done under the SHARP data base system at the Naval Ship Research and Development Center at Carderock, Maryland. The system was transferred to the Naval Oceanographic Office, NSTL Station, Bay St. Louis, Mississippi, in late 1979 and was redesigned to operate within the UNIVAC 1100 Operating System environment. CERS was implemented as a subset of a composite Oceanographic Management Information System (OMIS).

There are three citation types available to the user through CERS: 1) Common data records contain bibliographic information on a data source, such as whom to contact, storage medium, relevant publications, etc.; 2) Specific data records contain information about each individual site in a study, such as coordinates, dates of operation, etc.; and 3) the Information Sections provide background information for each primary parameter including descriptions of the most common methods used in data collections.

In its current prototype form, the inventory does not have uniform coverage of all parameters in all locations. The inventory base is constantly being updated, however, gaining new records and better information on coastal studies. There were 4,200 site-specific records in the file as of February 1981.

Most outputs from CERS will be short query responses. An interactive data retrieval program is available to handle the most common types of queries. It can be made available to any user who has a terminal and can demonstrate need for access to the system. Answers to questions can be obtained in minutes or even seconds with this program. Queries that cannot be answered with this program may refer to the ERS Subject Matter Specialist for a QLP query. This may take from a few minutes to a day, depending on system status, complexity of the question, or how busy the Subject Matter Specialist is at the time. Users requiring special reports on a recurring basis may contact the Subject Matter Specialist to establish procedures for having this done.

Any Department of Defense or DOD-contracted organization may be allowed access to information in this system. This access will depend on demonstrated needs. Frequent users may be given direct on-line access. Infrequent users and anyone wanting information requiring non-standard queries may have their questions answered through contacting the ERS Subject Matter Specialist. Any users having special requirements such as reports, can get their requirements met through the ERS Subject Matter Specialist also. All inquiries can be directed to: ERS Subject Matter Specialist, OMIS, NAVOCEANO, Code 5003, Bay St. Louis, Mississippi 39522.

CONCLUSION

The charter for the Commander, Naval Oceanography Command (COMNAVOCEANCOM) is set forth in SECNAVINST 5430.79A, OPNAVINST 5450.165A, and NAVOCEANCOMINST 5450.9C. These directives define the policy and objectives of the Naval Oceanographic Program and establish organizational relationships and responsibilities. Among these mission-functional duties is the requirement to provide Oceanographic, Meteorological, and Mapping, Charting and Geodesy information to cognizant managers. The OMIS, which currently utilizes NAVOCEANO computer assets, responds to this specific need, and provides information for technical assessment and coordination of the Naval Oceanography Program. It serves as a multi-functional, command-wide, integrated system and is under the direction of selected COMNAVOCEANCOM managers. (For a complete listing of OMIS personnel see Appendix 2M.) A more detailed analysis of the subsets is available through those references, publications, and documents identified in Appendix 2N.

APPENDIX 2A

DEFINITION OF NAVAL OCEANOGRAPHY PROGRAM DATA ELEMENTS

1. Program Control Number (PGM-CONTROL-NO)
 - a. This number uniquely references a particular program record.
 - b. This field is a four numeric character field (i.e., 0049).
2. Defense Technical Information Center Accession Number (DTIC-ACCESSION-NO)
 - a. A two-part identifier, composed of two alphabetic characters indicating the reporting agency and a six digit serial number unique to each work unit summary, comprises this entry.
 - b. An accession number will be assigned once only. When the work unit summary which it identifies has been completed or terminated, the accession number will not be used again (i.e., DN048398).
 - c. This field is an eight alphanumeric character field.
- 3-5. Topic
 - a. A brief descriptive identification of the work unit.
 - b. This title is limited to three lines, each of which can be no more than sixty characters.
6. Acronym (PGM-ACRONYM)
 - a. An acronym which is directly applicable to the component can be entered into this field.
 - b. The number of alphanumeric characters cannot exceed eighteen.
7. Program Classification (PGM-CLASSIFICATION)
 - a. A code (U, C, S, or T) indicating the security classification of the work must be used.
 - b. Entries are limited to a single alpha character and must be selected from one of the following:
 - T - Top Secret
 - S - Secret
 - C - Confidential
 - U - Unclassified

8. Program Record Classification (PGM-RECORD-CLASS)
- a. A code (U, C, S, or T) which indicates the security classification of the entire summary.
 - b. Entries are limited to a single alpha character and must be selected from one of the following:
 - T - Top Secret
 - S - Secret
 - C - Confidential
 - U - Unclassified
9. Program Mid-Range Objectives Page (PGM-MRO-PAGE)
- a. The page number in COMNAVOCEANCOM's Mid-Range Objectives containing the application portion of the Mid-Range-Plan relating to the component.
 - b. This field contains five alphanumeric characters.
10. Program Mid-Range Objectives Paragraph (PGM-MRO-PARA)
- a. Identification by paragraph of that portion of the command Mid-Range Objectives to which the component applies.
 - b. This is a five alphanumeric character field.
11. COMNAVOCEANCOM Priority (CNOC-PRIORITY)
- a. The priority established by COMNAVOCEANCOM for the component in light of other existing requirements.
 - b. This is a six alphanumeric character field.
12. Program Resource Sponsor (PGM-RESOURCE-SPONSOR)
- a. A Deputy Chief of Naval Operations (DCNO) or Director, Major Staff Office (DMSO) responsible for an identifiable aggregation of resources which constitute inputs to warfare and supporting warfare tasks and acts as a point of contact with the material command to insure that programs are properly structured.
 - b. These sponsors are listed in Annex 2 of the Navy Programming Manual (Budget).
 - c. This is a twenty-four alphanumeric character field.
13. Program Element Sponsor (PGM-ELEMENT-SPONSOR)
- a. The Commandant of the Marine Corps (CMC), the Deputy Chief of Naval Operations (DCNO), or Director, Major Staff Office (DMSO) having functional cognizance over the majority of the functions, projects, or unit identification codes (UIC) within the elements.

- b. These sponsors are listed in Annex 2 of the Navy Programming Manual (Budget).
 - c. This is a twenty-four alphanumeric character field.
14. Sponsor Cognizant Organization (SPON-COG-ORG)
- a. The sponsor organization or command having the responsibility to the Program Element Sponsor for component completion.
 - b. This is an eighty alphanumeric character field.
15. Sponsor Cognizant Name (SPON-COG-NAME)
- a. The name of the individual who serves as the sponsor point of contact for the component.
 - b. Enter last name first followed by a space, then the first initial. Omit rank or title.
 - c. Example: Smith J
 - d. This is a fifty alphanumeric character field.
16. Sponsor Cognizant Code (SPON-COG CODE)
- a. This references the organizational code of the Sponsor Cognizant name.
 - b. This is a ten alphanumeric character field.
17. Sponsor Cognizant Phone (SPON-COG-PHONE)
- a. The phone number of the sponsor cognizant name is listed here.
 - b. This is a thirteen alphanumeric character field and should follow the following convention: Type/Number. The letters used to designate the type of phone number are listed as follows:
 - A - Autovon
 - F - FTS
 - C - Commercial
 - c. Examples: C601-688-4497
F601-494-4497
A485-4497
18. Sponsor Extension (SPON-EXTENSION)
- a. The extension to the SPON-COM-PHONE is entered here.
 - b. This is an eight alphanumeric character field.
19. Program Start Date (PGM-START-DATE)
- a. This reflects the date the program work actually began.

- b. Use DOD standard data elements "YEAR" (last two digits of the calendar year) and "MONTH" (the two digits of the month) in which the work actually began.
 - c. Example: July 1981 would be entered 8107.
 - d. This is a four numeric character field.
20. Program Estimated Completion Date (PGM-EST-COMP-DATE)
- a. Use DOD standard data elements "YEAR" (last two digits of the calendar year) and "MONTH" (the two digits of the month) in which the work unit is expected to be completed.
 - b. Example: August 1981 would be entered 8108
Continuing would be entered CONT
 - c. This is a four numeric character field.
21. Action Organization (ACTION-ORGANIZATION)
- a. The organization or command having the responsibility for performing the component work.
 - b. This is an eighty alphanumeric character field which contains the official name (not an acronym) of the laboratory, installation, or activity which is directly responsible for the work being reported.
22. Principal Investigator (PRINCIPAL-INVESTIGATOR)
- a. Identification of the individual immediately responsible for the work being reported.
 - b. Enter last name first followed by a space, then the first initial. Omit rank or title.
 - c. Example: Smith J
 - d. This is a fifty alphanumeric character field.
23. Principal Investigator Code (PI-CODE)
- a. The organization code of the principal investigator.
 - b. This is a ten alphanumeric character field.
24. Principal Investigator Phones (PI-COM-PHONE)
- a. The phone number of the principal investigator is listed here.

- b. This is a thirteen alphanumeric field and should follow the following convention: Type/Number. The letters used to designate the type of phone number are listed as follows:

A - Autovon
F - FTS
C - Commercial

- c. Example: C601-688-4497
F494-4497
A485-4497

25. Principal Investigator Extension (PI-EXTENSION)

- a. The extension to the PI-COM-PHONE is entered here.
b. This is an eight alphanumeric character field.

26. Major Five Year Defense Program (MAJ-FYDP-PGM)

- a. The major program (one of ten) of the Five Year Defense Program (FYDP) into which the component falls.
b. This is a three alphanumeric character field and entries are limited to one of the following:

<u>Entry</u>	<u>Remarks</u>
SON	Support of Other Nations
STF	Strategic Forces
GPF	General Purpose Forces
IAC	Intelligence and Communication
AAS	Airlift and Sealift
GRF	Guard and Reserve Forces
RAD	Research and Development
CSM	Central Supply and Maintenance
TMP	Training, Medical and Other Personnel Activities
AAA	Administrative and Associated Activities

27. Program Element (PGM-ELEMENT)

- a. The DOD Program Structure Code and Definitions Handbook (DODINST 7045.7H0) promulgates the official DOD definition for each program element. The program element designator into which the component falls is entered into this field.
b. This is a twelve alphanumeric character field.

28. Program Project (PGM-PROJECT)

- a. The project designator into which the component falls.
b. This is a twelve alphanumeric character field.

29. Program Task (PGM-TASK)

- a. The task designator into which the component falls
- b. This is a twelve alphanumeric character field.

30. Program Work Unit (PGM-WORK-UNIT)

- a. The work unit designator into which the component falls.
- b. This is a twelve alphanumeric character field.

31-33. Defense Planning and Programming Category Summaries (DPPC1,2,3)

- a. To provide a useful display of approved programs in terms consistent with the decision environment with the Department of the Navy, the Department of Navy Five Year Plan is also structured in terms of Defense Planning and Programming Categories.
- b. Each field is a three alphanumeric character field and entries must be selected from the following table:

<u>Entry</u>	<u>Remarks</u>
STG	Strategic
OSF	Offensive Strategic Forces
DSF	Defensive Strategic Forces
SCF	Strategic Control and Surveillance Forces
TAM	Tactical/Mobility
LFS	Land Forces
DFS	Division Forces
TFS	Theatre Forces
TAF	Tactical Air Force
NAF	Naval Forces
AFF	ASW and Fleet Air Defense Forces
AMF	Amphibious Forces
NSF	Naval Support Forces
MFS	Mobility Forces
AAS	Auxiliary Activities
IAA	Intelligence
CMC	Centrally Managed Communication
RAD	Research and Development
GPA	Geophysical Activities
SPA	Support Activities
BOS	Base Operating Support
CIS	Combat Installations
SIS	Support Installations
MSA	Medical Support
PSA	Personnel Support
ITA	Individual Training
FST	Force Support Training
CLS	Central Logistics
SOS	Supply Operations
MOS	Maintenance Operations

<u>Entry</u>	<u>Remarks</u>
LSO	Logistics Support Operations
CSA	Centralized Support Activities
MHQ	Management Headquarters
DAS	Defense Agencies
IMO	International Military Organizations
UCS	Unified Commands
CSS	Service Support - Combat Commands
SSS	Service Support - Support Commands
FAS	Federal Agency Support
IDS	Individuals
TSS	Transients
PPH	Patients, Prisoners, and Holdees
TSC	Trainees, Students, and Cadets
MSC	Miscellaneous
ISF	International Support Funds
MRP	Retired Pay
MUD	Undistributed

34-37. Deliver (DELIVER 1,2,3,4)

- a. This field records the physical products which are the consequence of the component effort.
- b. Up to four products can be entered in four alphanumeric character fields, each of which may be a maximum of thirty characters in length.

38. Activity Group (ACTIVITY-GROUP)

- a. The Budget Classification Code Activity Group designator into which the component falls.
- b. This is a twelve alphanumeric character field.

39. Sub-Activity Group (SUB-ACTIVITY-GROUP)

- a. The Budget Classification Code Sub-Activity Group designator into which the component falls.
- b. This is a twelve alphanumeric character field.

40. Funds Last Fiscal Year (FUNDS-LAST-FY)

- a. The total cost of funding the component the last fiscal year.
- b. This is a ten numeric character field.
- c. All monies should be rounded to the nearest thousand dollars and entered with the three final zeros.
- d. Example: Enter 50000 for \$50,000.

- e. Enter Ø (zero) in the appropriate field if no man years or funds were used.

41. Funds This Fiscal Year (FUNDS-THIS-FY)

- a. The total cost dedicated to the component for the current fiscal year.
- b. This is a ten numeric character field.
- c. All monies should be rounded to the nearest thousand dollars and entered with the three final zeros.
- d. Example: Enter 50000 for \$50,000.
- e. Enter Ø (zero) in the appropriate field if no man-years or funds were used.

42. Funds Next Fiscal Year (FUNDS-NEXT-FY)

- a. The total cost anticipated or dedicated to the component for the next fiscal year.
- b. This is a ten numeric character field.
- c. All monies should be rounded to the nearest thousand dollars and entered with the three final zeros.
- d. Example: Enter 50000 for \$50,000.
- e. Enter Ø (zero) in the appropriate field if no funds were used.

43. Man-Years Last Fiscal Year (MY-LAST-FY)

- a. The total man-years dedicated last year to the component.
- b. All scientific and engineering effort expended directly on the work should be reported.
- c. Man-Years should be recorded to the nearest tenth of a year.
- d. This is a five numeric character field.

44. Man-Years This Fiscal Year (MY-THIS-FY)

- a. The total man-years dedicated to the component for the current fiscal year.
- b. All scientific and engineering efforts expended directly on the work should be reported.
- c. Man-years should be recorded to the nearest tenth of a year.
- d. This is a five numeric character field.

45. Man-Years Next Fiscal Year (MY-NEXT-FY)

- a. The total man-years anticipated for or dedicated to the component for the next fiscal year.
- b. All scientific and engineering effort expended directly on the work should be reported.
- c. Man-years should be recorded to the nearest tenth of a year.
- d. This is a five numeric character field.

46. Program Status Date (PGM-STATUS-DATE)

- a. The date that status comments are made is entered here using the DOD standard data chain "DATE" as a six digit entry consisting of the DOD standard data elements "YEAR" (last two digits of year), "MONTH" (two digits) and "DAY" (two digits).
- b. Example: September 1, 1980 will be entered as 800901
- c. This is a six alphanumeric character field.

47. Program Status Code (PGM-STATUS-CODE)

- a. A code indicating the status of the transaction being reported. The code is chosen from the following:

<u>Entry</u>	<u>Remarks</u>
NEW	New
CHGE	Change
TERM	Terminated
COMP	Completed
CORR	Correction

- b. Each of these terms are defined as:
 - (1) New - Indicating initial comments regarding a new work unit effort.
 - (2) Change - A submission to report substantive revisions or to reinstate a work unit effort previously reported as terminated.
 - (3) Terminated - Report on an uncompleted work unit effort which has been cancelled, suspended, or otherwise discontinued.
 - (4) Completed - Final report on work unit effort which is finished.
 - (5) Correction - A submission to indicate an editorial change or to correct a minor error or a previously submitted summary.
- c. This is a four alphanumeric character field.

48. Program Status Summary (PGM-STATUS-SUMMARY)

- a. A brief textual description of the current status of the component.
- b. This is an unlimited field, requiring sixty characters per line for as many lines as needed.

49. Program Summary (PGM-SUM-LINE)

- a. A brief textual description of the component.
- b. This field is sixty alphanumeric characters per line for as many lines as are needed.

50. Descriptor

- a. Descriptors must be chosen from a defined table of Thesaurus terms with the exception of the user descriptors, (UD1, UD2, UD3) which may be filled in at the discretion of the user.
- b. The remaining descriptors must be chosen from the pre-selected Thesaurus and the appropriate codes (not words) must be entered.
- c. Each code is a seven alphanumeric character field.
- d. These descriptors are listed in Appendix 2C.

APPENDIX 2B

DEFINITION OF NAVAL OCEANOGRAPHIC REQUIREMENTS DATA ELEMENTS

1. Requirement Control Number (REQ-CONTROL-NO)

- a. This field contains an unique sequential number assigned to each NOR record.
- b. This is a twelve alphanumeric character field.

2. Requirement Area Number (REQ-AREA-NO)

- a. Data used to broadly categorize each record into major command regions, to identify the Fleet priority assigned, and to identify the fiscal year of submission (e.g., PAC-A12-80) is entered in this descriptor field.
- b. This is a twelve alphanumeric character field.

3. Requirement Type (REQ-TYPE)

- a. One of three entries is accepted:

<u>Entry</u>	<u>Remark</u>
O	Oceanographic
M	Meteorological
C	Mapping, Charting, and Geodesy

This selection denotes the type of requirement that is being tracked.

- b. This is a single alpha character field.

4. Requirement Reference (REQ-REFERENCE)

- a. Identifying information pertaining to the documents which forwarded the requirements (e.g., CINCLANTFLT ltr ser 5003/N321 of 12 March 1980, or CINPACFLT MS 12224Z Mar 80) is entered here.
- b. This is a fifty alphanumeric character field.

5. Requirement Fleet Point of Contact Name (REQ-FLT-POC-NAME)

- a. The name of the Fleet Point of Contact for further information about the requirement is placed in this field.
- b. This is a thirty alphanumeric character field.

6. Requirement Fleet Point of Contact Phone (REQ-FLT-POC-PHONE)

- a. The phone of the Fleet Point of Contact for further information about the requirement is entered here.
- b. This is a thirteen alphanumeric character field and should follow the following convention: Type/Number. The letters used to designate the type of phone number are listed as follows:

A - Autovon
F - FTS
C - Commercial

- c. Examples: C601-688-4497
F494-4497
A485-4497

7. Requirement Fleet Point of Contact Extension (REQ-FLT-POC-EXTENSION)

- a. The extension to the REQ-FLT-POC-PHONE.
- b. This is an eight alphanumeric character field.

8. Requirement Fleet Point of Contact Command (REQ-FLT-POC-CMD)

- a. The command of the Fleet Point of Contact for further information about the requirement is recorded here.
- b. This is a twenty-four alphanumeric character field.

9. Requirement Classification (REQ-CLASSIFICATION)

- a. The classification of the proposed requirement is identified in the document and is placed in this descriptor state.
- b. This is a single alpha character field with choices limited to:

<u>Entry</u>	<u>Remarks</u>
T	Top Secret
S	Secret
C	Confidential
U	Unclassified

10. Requirement Record Classification (REQ-RECORD-CLASS)

- a. The classification of the compiled NOR record representing the requirement.

- b. This is a single alpha character field with choices limited to:

<u>Entry</u>	<u>Remarks</u>
T	Top Secret
S	Secret
C	Confidential
U	Unclassified

11. Requirement Topic (REQ-TOPIC)

- a. A short statement identifying the proposed requirement.
b. This is a fifty alphanumeric character field.

12. Requirement Area of Interest (REQ-AREA-OF-INTEREST)

- a. The specific geographical area of interest to which the requirement applies (i.e., Northwest Pacific, Strait of Malacca) is recorded here.
b. This is a thirty alphanumeric character field.

13. Requirement Date Required (REQ-DATE-REQUIRED)

- a. The date the requestor desires the requirement to be met is entered here using the DOD standard format of year and month.
b. This is a four numeric character field.
c. Example: March 1980 would be entered as 8003.

14-17. Requirement Naval Warfare Areas (REQ-NAVAL-WARFARE-AREAS)

- a. The specific Naval Warfare Area Codes used by COMNAVOCEANCOM to characterize support efforts are recorded here. One primary and up to three secondary codes can be entered.
b. This is a three alpha character field and entries must be selected from the following table:

<u>Entry</u>	<u>Remarks</u>
SBW	Sea-Based Strategic Warfare
ASW	Anti-Submarine Warfare
AAW	Anti-Air Warfare
SHW	Anti-Ship Warfare
MIW	Mine Warfare
AMW	Amphibious Warfare
TWA	Tactical Warfare Ashore
SPW	Special Warfare
OCA	Ocean Surveillance
CCC	Command and Control Communications
LOG	Support and Logistics
PMS	Personnel/Medical Support

18. Requirement Mid-Range Objectives Paragraph (REQ-MRO-PARA)
- Identification by paragraph of that portion of the command Mid-Range-Objectives (MRO) to which the component applies. (See MRO Appendix IV-PPROG.)
 - This is a five alphanumeric character field.
19. Requirement Mid-Range Objectives Page (REQ-MRO-PAGE)
- The page number in COMNAVOCEANCOM's Mid-Range-Objectives (MRO) containing the applicable portion of the Mid-Range-Plan relating to the component. (See MRO Appendix IV-PAGE.)
 - This is a five alphanumeric character field.
20. Requirement COMNAVOCEANCOM Priority (REQ-CNOC-PRIORITY)
- The priority established by COMNAVOCEANCOM for the component in light of other existing requirements.
 - This is a six alphanumeric character field.
21. Requirement Action Organization (REQ-ACTION-ORG)
- The organization or command having the responsibility for performing the component work.
 - This is a fifty alphanumeric character field which contains the official name (not an acronym) of the laboratory, installation, or activity which is directly responsible for the work being reported.
22. Requirement Estimated Completion Date (REQ-ETC)
- Use DOD standard data elements "YEAR" (last two digits of the calendar year) and "MONTH" (the two digits of the month) in which the work unit is expected to be completed.
 - This is a four alphanumeric character field.
 - Example: August 1981 would be entered 8108
Continuing would be entered CONT
23. Requirement Status Date (REQ-STATUS-DATE)
- The date that status comments are made is entered here using the DOD standard data chain "DATE" as a six digit entry consisting of the DOD standard data element "YEAR" (last two digits of the year), "MONTH" (two digits) and "DAY" (two digits).
 - This is a six numeric character field.
 - Example: September 1, 1980 would be entered as 800901.

24. Requirement Status Code (REQ-STATUS-CODE)

- a. A code indicating the status of the transaction being reported. The code is chosen from the following table:

<u>Entry</u>	<u>Remarks</u>
VALD	Validated
COMP	Completed
TERM	Terminated
CONT	Continuing
IACT	Inactive
ACTV	Active
INVD	Invalid
REQD	Requested

- b. The meaning of each code is as follows:

- (1) Validated - The requirement has been received and judged a valid requirement.
- (2) Completed - The requirement has been fully met and is no longer active.
- (3) Terminated - The uncompleted effort has been canceled, suspended, or otherwise discontinued.
- (4) Continuing - The validated requirement has no estimated completion date.
- (5) Inactive - The validated requirement has been temporarily set aside awaiting additional resources.
- (6) Invalid - The incoming requirement has been reviewed and determined not to be a valid requirement.
- (7) Active - The validated requirement is currently being addressed.
- (8) Requested - An incoming requirement has been received and is awaiting evaluation to determine its validity.

- c. This is a four alpha character field.

25. Requirement Status Summary (REQ-STATUS-SUMMARY)

- a. A brief textual description of the current status of the requirement should be entered here.
- b. This is an unlimited field, allowing sixty characters per line for as many lines as needed.

26. Requirement Completion Date (REQ-COMPLETION-DATE)

- a. When a requirement has been completely met, the corresponding date is entered here. The DOD standard data elements "YEAR" (last two digits of the calendar year) and "MONTH" (the two digits of the month) in which the work was actually finished.
- b. This is a four numeric character field.
- c. Example: July 1981 would be entered 8107.

27. Requirement Summary (REQ-SUMMARY)

- a. A brief textual description of the requirement.
- b. This field is an unlimited field allowing sixty alphanumeric characters per line for as many lines as needed.

28. Descriptors

- a. Descriptors must be chosen from the table which appears in Appendix 2C, with the exception of the user descriptors (UD1, UD2, UD3) which may be filled in at the discretion of the user.
- b. The remaining descriptors must be chosen from the pre-selected Thesaurus and the appropriate codes (not words) must be entered.
- c. Each code is a seven alphanumeric character field.

APPENDIX 2C

NAVAL OCEANOGRAPHY PROGRAM/NAVAL OCEANOGRAPHIC REQUIREMENTS TRI-LEVEL THESAURUS OF SUBJECT TERMS

1. Administration

a. 1st Level Descriptor

Administration (DAD0000)

b. 2nd Level Descriptors

Documentation (DAD0100)
Information Management (DAD0200)
Personnel (DAD0300)
Planning (DAD0400)
Training (DAD0500)

2. Location

a. 1st Level Descriptor

Location (DLN0000)

b. 2nd Level Descriptors

*Atmosphere (DLN0100)
Coastal (DLN0200)
*Marine (DLN0300)
Mid-Latitudes (DLN0400)
Open Ocean (DLN0500)
Polar Regions (DLN0600)
Straits (DLN0700)
Tropics (DLN0800)

c. 3rd Level Descriptors

*Atmosphere (DLN0100)
Air Column (DLN0101)
Ionosphere (DLN0102)
Stratosphere (DLN0103)
Troposphere (DLN0104)

*Marine (DLN0300)
Deep Ocean (DLN0301)
Mixed Layer (DLN0302)

Shallow Water (DLN0303)
Surface (DLN0304)
Thermocline (DLN0305)
Water Column (DLN0306)

3. Operations

a. 1st Level Descriptor

Operations (DOP0000)

b. 2nd Level Descriptors

Applications (DOP0100)
*Affecting Factor (DOP0200)
*Environmental Support (DOP0300)
R & D (DOP0400)

c. 3rd Level Descriptors

*Affecting Factors (DOP0200)
Atmospheric Ducting (DOP0201)
Eddies (DOP0202)
Extra-Tropical Storms (DOP0203)
Fog (DOP0204)
Fronts (DOP0205)
Humidity (DOP0206)
Temperature Extreme (DOP0207)
Thunderstorms (DOP0208)
Tropical Storms (DOP0209)
Turbulence (DOP0210)
Water Depth (DOP0211)
Waves (DOP0212)
Winds (DOP0213)

*Environmental Support (DOP0300)
Analysis (DOP0301)
Climatological Data (DOP0302)
Command-Control-Communications (DOP0303)
Observers (DOP0304)
Prediction (DOP0305)
Synoptic Data (DOP0306)

4. Oceanography

a. 1st Level Descriptor

Oceanography (DOC0000)

b. 2nd Level Descriptors

*Biology (DOC0100)
Chemistry (DOC0200)
*Diving (DOC0300)
Engineering (DOC0400)

- *Geology-Geophysics (DOC0500)
- Models (DOC0600)
- *Physical (DOC0700)
- Pollution (DOC0800)
- Submersibles (DOC0900)

c. 3rd Level Descriptors

- *Biology (DOC0100)
 - Bioluminescence (DOC0101)
 - Borers (DOC0102)
 - Ecology (DOC0103)
 - Fish (DOC0104)
 - Food Production (DOC0105)
 - Fouling (DOC0106)
 - Mammals (DOC0107)
 - Medicine (DOC0108)
 - Plankton (DOC0109)
 - Sound Scatters (DOC0110)
- *Diving (DOC0300)
 - Equipment (DOC0301)
 - Medicine (DOC0302)
 - Technology (DOC0303)
- *Geology-Geophysics (DOC0500)
 - Bathmetry (DOC0501)
 - Geodesy (DOC0502)
 - Gravity (DOC0503)
 - Magnetics (DOC0504)
 - Navigation (DOC0505)
 - Radioactivity (DOC0506)
 - Sea Floor Structure (DOC0507)
 - Sediment Dynamics (DOC0508)
- *Physical (DOC0701)
 - Air-Sea Interaction (DOC0701)
 - Conductivity (DOC0702)
 - Currents (DOC0703)
 - Density (DOC0704)
 - Depth (DOC0705)
 - Eddies (DOC0706)
 - Fronts (DOC0707)
 - Internal Waves (DOC0708)
 - Salinity (DOC0709)
 - Sampling (DOC0710)
 - Sea Ice (DOC0711)
 - Sound Velocity (DOC0712)
 - Surface Waves (DOC0713)
 - Temperature (DOC0714)
 - Tides (DOC0715)
 - Transparency (DOC0716)

5. Meteorology

a. 1st Level Descriptor

Meteorology (DOM0000)

b. 2nd Level Descriptors

Chemistry (DOM0100)
Climatology (DOM0200)
Instrumentation (DOM0300)
Models (DOM0400)
*Physical (DOM0500)
Pollution (DOM0600)
Prediction (DOM0700)

c. 3rd Level Descriptors

*Physical (DOM0500)
Air-Sea Interaction (DOM0501)
Cloud Cover (DOM0502)
Energy Transfer (DOM0503)
Fog (DOM0504)
Fronts (DOM0505)
Ice (DOM0506)
Precipitation (DOM0507)
Temperature (DOM0508)
Thunderstorms (DOM0509)
Tropical Storms (DOM0510)
Turbulence (DOM0511)
Winds (DOM0512)

6. Acoustics

a. 1st Level Descriptor

Acoustics (DAC0000)

b. 2nd Level Descriptors

*Measurement Systems (DAC0100)
*Models (DAC0200)
*Noise (DAC0300)
*Reverberation (DAC0400)
*Transmission (DAC0500)

c. 3rd Level Descriptors

*Measurement System (DAC0100)
Acoustic Weapon (DAC0101)
Receiver (DAC0102)
Signal Processor (DAC0103)
Source (DAC0104)

- *Models (DAC0200)
 - Active Sonar (DAC0201)
 - Noise (DAC0202)
 - Propagation (DAC0203)
 - Reverberation (DAC0204)
- *Noise (DAC0300)
 - Animal (DAC0301)
 - Horizontal (DAC0302)
 - Man Noise (DAC0303)
 - Self Noise (DAC0304)
 - Signal-Noise Ratio (DAC0305)
 - Vertical (DAC0306)
 - Water Noise (DAC0307)
- *Reverberation (DAC0400)
 - Deep Scattering Layer (DAC0401)
 - Surface (DAC0402)
 - Volume (DAC0403)
 - Bottom (DAC0404)
- *Transmission (DAC0500)
 - Absorption (DAC0501)
 - Bottom Propagation (DAC0502)
 - Convergence (DAC0503)
 - Propagation Loss (DAC0504)
 - Propagation Paths (DAC0505)
 - Reflection (DAC0506)
 - Refraction (DAC0507)
 - Signal Characteristics (DAC0508)
 - Target Characteristics (DAC0509)

7. Remote Sensing

a. 1st Level Descriptor

Remote Sensing (DRS0000)

b. 2nd Level Descriptors

- Bathymetry (DRS0100)
- Clouds (DRS0200)
- Currents (DRS0300)
- Data Transmission (DRS0400)
- Eddies (DRS0500)
- Fronts (DRS0600)
- Gravity (DRS0700)
- Ice Coverage (DRS0800)
- Instrumentation (DRS0900)
- Internal Waves (DRS1000)
- Magnetics (DRS1100)
- *Platforms (DRS01200)

b. 2nd Level Descriptors (continued)

Surface Waves (DRS1300)
Technology (DRS1400)
Temperature (DRS1500)
Tides (DRS1600)
Upwelling (DRS1700)
Winds (DRS1800)

c. 3rd Level Descriptors

*Platform (DRS1200)
 Ship (DRS1201)
 Aircraft (DRS1202)
 Satellite (DRS1203)
 Buoy (DRS1204)

APPENDIX 2D

ARS GLOSSARY OF TERMS

1. REPORT CONTROL NUMBER: Serial number of identification of record within data base.
2. SUMMARY SECURITY: Classification of information in record.
3. WORK SECURITY: Classification of data itself.
4. MEASUREMENT TYPE 1: Type of acoustic measurement taken; e.g., ambient noise, transmission loss, etc.
5. MEASUREMENT TYPE 2: Type of acoustic measurement taken; e.g., ambient noise, transmission loss, etc.
6. MEASUREMENT TYPE 3: Type of acoustic measurement taken; e.g., ambient noise, transmission loss, etc.
7. MEASUREMENT TYPE 4: Type of acoustic measurement taken; e.g., ambient noise, transmission loss, etc.
8. BEGIN DATE: Year and month measurements started.
9. END DATE: Year and month measurements terminated.
10. S. BOUND: Southern boundary of measurement area considered in this record, in degrees of latitude. (+=NLat, -=SLat)
11. N. BOUND: Northern boundary of measurement area considered in this record, in degrees of latitude. (+=NLat, -=SLat)
12. W. BOUND: Western boundary of measurement area considered in this record, in degrees of longitude. (+=ELong, -=WLong)
13. E. BOUND: Eastern boundary of measurement area considered in this record, in degrees of longitude. (+=ELong, -=WLong)
14. GENERAL LOCATION: Common geographical name: e.g., Mediterranean Sea.
15. SPECIFIC LOCATION: More specific location name: e.g., Levantine Basin.
16. COGNIZANT PERSON: Person to contact for more information (either author, collector of data or keeper of data library).
17. COGNIZANT ORGANIZATION: Organization which holds the data.

18. COG PHONE: Phone number of cognizant person.
19. SPONSOR ORG: Sponsor organization for the operation (may be different from item 17).
20. FREQUENCY 1: Frequencies at which measurements were taken in Hz.
21. FREQUENCY 2: Frequencies at which measurements were taken in Hz.
22. FREQUENCY 3: Frequencies at which measurements were taken in Hz.
23. FREQUENCY 4: Frequencies at which measurements were taken in Hz.
24. RECEIVER 1: Identification of receivers used; e.g., AN/SSQ-57A SONOBUOY.
25. RECEIVER 2: Identification of receivers used; e.g., hydrophone array.
26. RECEIVER 3: Identification of receivers used; e.g., TSLVA.
27. RECEIVER DEPTH 1: Depth of Receiver 1 in meters.
28. RECEIVER DEPTH 2: Depth of Receiver 2 in meters.
29. SOURCE 1: Sound sources used; e.g., sus charge.
30. SOURCE 2: Sound sources used; e.g., sus charge.
31. SOURCE 3: Sound sources used; e.g., sus charge.
32. SOURCE DEPTH: Depth of Source 1 in meters.
33. ENVIRONMENTAL DATA 1: Other environmental data collected; e.g., sound velocity profile.
34. ENVIRONMENTAL DATA 2: Other environmental data collected; e.g., core.
35. ENVIRONMENTAL DATA 3: Other environmental data collected; e.g., XBT.
36. ENVIRONMENTAL DATA 4: Other environmental data collected; e.g., current.
37. ENVIRONMENTAL DATA 5: Other environmental data collected; e.g., bathymetry.
38. EXERCISE NAME: Common name by which exercise is known; e.g., PARKA.
39. OTHER ID.
40. REFERENCE DOCUMENT.
41. NUMBER OF STATIONS.
42. REVIEW.
43. VLF: Were measurements taken at frequencies less than 10Hz.

- 44. LF: Were measurements taken at frequencies greater than or equal to 10Hz but less than 100 Hz.
- 45. MF: Were measurements taken at frequencies greater than or equal to 100Hz but less than 1000Hz.
- 46. HF: Were measurements taken at frequencies greater than or equal to 1000Hz but less than 10,000Hz.
- 47. VHF: Were measurements taken at frequencies greater than or equal to 10,000Hz.
- 48. MAX WATER DEPTH: Greatest water depth in the operating area in meters.
- 49. MIN WATER DEPTH: Least water depth in the operating area in meters.
- 50. MEASUREMENTS: Link of descriptors 4, 5, 6, and 7.
- 51. ENVIRONMENTAL DATA: Link of descriptors 33, 34, 35, 36, and 37.
- 52. COORDINATES: Link of descriptors 10, 11, 12, and 13.

APPENDIX 2E

RESEARCH VEHICLE REFERENCE SERVICE DATA ELEMENTS

1. Vehicle Record

- a. Ship Name - A twenty-five character data element that contains the full official name of a vessel.
- b. Designator - A fifteen character data element that contains the short title designator used for the ship (e.g., AGOR3, R441, RV).
- c. Call Sign - A four character data element that contains the four letter international radio call sign used to identify the ship.
- d. Tech Sponsor - A forty character data element that contains the name of the organization which is responsible for determining the scientific program carried out by the ship.
- e. Home Port - A twenty-four character data element that contains the officially designated home port of the ship.
- f. POC Name - A twenty character data element that contains the name of the individual acting as the official point of contact (POC) for the vehicle's scheduled activities.
- g. POC Office - A seventy-nine character data element that contains the office of the POC name.
- h. POC Organization - A fifty-five character data element that contains the organization of the POC name.
- i. POC Address - A fifty character data element that contains the address of the POC name.
- j. POC City-State - A twenty-five character data element that contains the City and State of the POC name.
- k. POC Phone - A twenty-one character data element that contains the point of contact phone number expressed with AUTOVON, FTS, Commercial and Local prefixes.
- l. Fleet - A five character data element that contains the general category which identifies the unique set to which a ship belongs, i.e., UNOLS, USNS, etc.

2. Supported Program Record

- a. Supported Program - A thirty character data element that contains the name of the official program being supported by the ship.
- b. Chief Scientist - A twenty character data element that contains the name of the chief scientist of a program.
- c. Program Organization - A twenty character data element that contains the name of the organization for which data is being collected.

3. Schedule Record

- a. Schedule Date - A six character data element that contains the date when a schedule originated or was last updated.
- b. Departure Date - A six character data element that contains the scheduled data of departure of a ship.
- c. Departure Port - An eighteen character data element that contains the name of the scheduled port of departure of a ship.
- d. Arrival Date - A six character data element that contains the scheduled data of arrival for a ship.
- e. Arrival Port - An eighteen character data element that contains the name of the scheduled port of arrival of a ship.
- f. Intent - A forty character data element that contains descriptive information about the intentions of a scheduled cruise.
- g. Cruise Info - A thirty character data element that contains descriptive information about a scheduled cruise (a continuation of the data item INTENT).
- h. Cruise Number - A ten character data element that contains a number identifying a particular cruise.
- i. Duration - A three character data element that contains the number of days for a cruise. This number is calculated automatically based upon the departure and arrival dates. A full day is counted for date of departure and date of arrival.
- j. General Ocean Areas - A twenty-five character data element that contains up to five general ocean area codes (five characters each) i.e., IN5, NP9, SA3A.

Indian Ocean - - IN
North Pacific - NP
South Pacific - SP
Antarctic - - - AN

Arctic - - - - AR
North Atlantic - NA
South Atlantic - SA

These codes are taken from the Standard Navy Ocean Area and Region Index Limits.

4. Check List Record - This record has a set of three data elements for seven clearance or notification categories.
 - a. Required Flag - A one character data element that contains a code to indicate a requirement (Y=Yes, N=No, Blank=Unknown).
 - b. Date Required - A six character data element that contains the date that a specific clearance or notification is required.
 - c. Date Received - A six character data element that contains the date that a specific clearance or notification is received. The clearance and notification categories are:
 - (1) AGOR cruise card.
 - (2) Technical specifications.
 - (3) Notice of intent.
 - (4) Operational area clearance.
 - (5) Diplomatic clearance.
 - (6) Acoustics notification.
 - (7) Ordnance - seismic notification.
5. Active Mission Record (Current Mission) - A thirty character data element that contains the latest reported mission activity of the vehicle.
6. Location Record
 - a. Latitude - A six character data element that contains the latest reported latitude position of a ship.
 - b. Latitude Check Sum - A one character data element that contains an integer used to check data transmission of latitude.
 - c. Longitude - A seven character data element that contains the latest reported longitude position of a ship.
 - d. Longitude Check Sum - A one character data element that contains an integer used to check data transmission of longitude.
 - e. Course - A three character data element that contains the latest reported heading of a ship.
 - f. Speed - A four character data element that contains the latest reported speed in knots (to the nearest tenth) of a ship.
 - g. DTG - An eight character data element that contains the latest reported date-time-group of a ship's position report. This element includes the day of the month, ZULU time and a check sum.

- h. YR-MON - A five character data element that contains the three letter month abbreviation and the year associated with the DTG of the ships' position report.
- i. Current-Status - A forty-eight character data element that contains the latest reported status of a ship.

7. Characteristic Description Record

- a. Active-Rudder - A one character data element that indicates whether or not a ship has an active rudder.
- b. Ammo-Storage - A one character data element that indicates whether or not a ship has proper storage for ordnance.
- c. Anti-Roll - A one character data element that indicates whether or not a ship has anti-roll capability.
- d. AUL-Frames - A six character data element that contains the hoisting capacity in pounds and number of A, U, L or other types of frames aboard (e.g., 120004 represents a max capacity aboard of 1200 pounds and a total of four A, U, L or other frames).
- e. AUX-Propulsion - An eighteen character data element that contains the type of auxiliary propulsion system used on a ship.
- f. Berthing-Van - An eight character data element that contains whether or not the ship has the capability for supporting a berthing van while underway and what the maximum dimensions are.
- g. Bow-Thrusters - A twenty-five character data element that identifies the type of bow thruster on a ship, if any.
- h. Builder - A thirty-eight character data element that contains the name of the ship builder.
- i. Cert-Auth - A twenty-seven character data element that contains the name of the organization or activity providing certification authority clearance for the ship (e.g., USCG, American Bureau of Shipping).
- j. Char-Poc-Name - A twenty-two character data element that contains the name of the individual acting as the official point of contact (POC) for the ships' physical characteristics.
- k. Char-Poc-Off - A thirty-two character data element that contains the office or title of the position of the point of contact.
- l. Char-Poc-Org - A thirty-six character data element that contains the name of the organization to which the point of contact is assigned.
- m. Char-Poc-Add - A thirty character data element that contains the street address or P.O. Box of the point of contact for ship characteristics.

- n. Char-Poc-City-St - A twenty-five character data element that contains the City, State and Zip Code of the point of contact for ship characteristics.
- o. Char-Poc-Phone - A twenty-one character data element that contains the point of contact phone number expressed with AUTOVON, FTS, Commercial, and Local prefixes.
- p. Class - A twenty-seven character data element that contains the class, name/short title designator to which the ship is assigned, or the general construction design.
- q. Comm-Date - A six character data element that contains the date the ship was commissioned.
- r. Common-Ship-Name - A thirty character data item that contains the name given to the ship by the foreign country operator.
- s. Computers - A twenty-one character data element that contains the type of scientific computers on-board ship, if any.
- t. Contract-Info - A seventy character data element that contains the name of the organization administering the contract, the contract number, the expiration date, and renewal options, if any.
- u. Conversion-Date - A six character data element that contains the date the ship was converted to an oceanographic ship in its present form.
- v. Cranes-Booms - A six character data element that contains the maximum hoisting capacity in pounds and number of cranes and booms aboard the ship (e.g., 15003 represents a max capacity aboard of 15000 pounds and a total of three cranes or booms).
- w. Cruise-Speed - A four character data element that contains the service or cruising speed for the ship for sustained periods, in knots.
- x. Deep-Anchor - A five character data element that indicates whether or not a ship has deep anchor capability and if so, the maximum depth in feet.
- y. Delivery-Date - A six character data element that contains the date that the ship was delivered as being complete and was accepted (or completed trials).
- z. Displacement - A five character data element that contains the full load displacement of the ship, in long tons.
- aa. Draught - A four character data element that contains the full load, maximum draught of the ship in feet.
- bb. Dry-Lab - A one character data element that indicates whether or not a ship has a dry lab.

- cc. Dynam-Positioning - A one character data element that indicates whether or not a ship has dynamic positioning.
- dd. Due-Date - A six character data element that contains the date the ship was formally promised to be delivered to the original owner as being complete.
- ee. EM-LOG - A one character data element that indicates whether or not a ship has an electromagnetic log.
- ff. Endurance - A three character data element that contains the maximum number of days that can be spent at sea without replenishment.
- gg. End-Life-Yr - A four character data element that contains the date projected to be the end of the ship's useful life. This is established as $X + \text{delivery date}$, where X equals:

Twenty-nine for ships with length greater than 200 feet,
 Twenty-seven for ships with length from 150-199 feet,
 Twenty-five for ships with length from 100-149 feet,
 Twenty-three for ships with length less than 100 feet.

If the ship has undergone a life extension program or if this formula does not apply to the ship, this value is the current best estimate of the date when the ship's service will be lost.

- hh. Facsimile - A one character data element that indicates whether or not the ship has a facsimile recorder capability.
- ii. Flag-Registry - A seventeen character data element that contains the proper name of the country in which the ship is registered.
- jj. Fuel - A twenty-five character data element that contains the official type of fuel for propulsion.
- kk. Gross-Tons - A five character data element that contains the gross Tonnage registered for the ship.
- ll. Height - A five character data element that contains the overall height from keel to the highest point, in feet.
- mm. Helo-Support - A one character data element that indicates whether or not a ship has a helo flight deck.
- nn. Inertial-Nav - A one character data element that indicates whether or not a ship has inertial navigation.
- oo. Initial-Cost - An eight character data element that contains the initial cost to build and equip the ship in millions of dollars per year (e.g., $1.375/67 = \$1,375,000$ in 1967 U.S. Dollars).
- pp. Instrument-Van - An eight character data element that contains the dimensions of an instrument van if the ship has the capability of supporting one underway.

- qq. Keel-Date - A six character data element that contains the date that the keel was laid (construction began).
- rr. Last-Overhaul - A six character data element that contains the date that the last major overhaul was completed.
- ss. Launch-Date - A six character data element that contains the date the ship was launched.
- tt. Length-Ft - A five character data element that contains the ship's overall length, in feet.
- uu. Limiting-Factor - A twenty character data element that contains the limiting factor which defines the endurance (e.g., fuel, refrigerated stores, water).
- vv. Loran-A - A one character data element that indicates whether or not a ship has Loran-A.
- ww. Loran-C - A one character data element that indicates whether or not a ship has Loran-C.
- xx. Main-Propulsion - A fifteen character data element that contains the type of main propulsion system used on the ship.
- yy. Maint-Cycle - A three character data element that contains the normal maintenance cycle for the ship, in years (e.g., 2.5).
- zz. Max-Beam - A four character data element that contains the maximum beam of the ship (not molded), in feet.
- aaa. Max-Sea-State - A two character data element that contains the maximum sea state (Beaufort scale) at which the ship can carry out its main mission at cruise speed.
- bbb. Max-Speed - A four character data element that contains the maximum speed at the ship's current capability, in knots.
- ccc. Min-Speed - A four character data element that contains the minimum speed, in knots, at which a ship is able to maintain steerageway for sustained periods (several hours).
- ddd. Met-Obs - A fifteen character data element that contains the type of meteorological observations a ship can make while underway.
- eee. Narrow-Beam - A one character data element that indicates whether or not a ship has narrow beam transducers.
- fff. Num-Crew - A four character data element that contains the crew-number considered adequate for normal operation.
- ggg. Num-Officers - A two character data element that contains the number of officers considered adequate for normal ship operations.

- hhh. Oper-Control - A thirty character data element that contains the name of the activity responsible for the upkeep, overhaul and non-technical operation of the ship.
- iii. Oper-Cost-Day - A thirty character data element that contains the cost to operate the ship at sea for a day, in thousands of U.S. dollars/year (e.g., 1.3/67 = \$1,300 in 1967 U.S. dollars).
- jjj. Omega - A one character data element that indicates whether or not a ship has Omega.
- kkk. Radar - A one character data element that indicates whether or not a ship has surface search radar.
- lll. Range-NM - A five character data element that contains the distance the ship can travel, in nautical miles, at cruise speed.
- mmm. Ratt-Comms - A one character data element that indicates whether or not a ship has radio teletype communications.
- nnn. Sat-Nav - A one character data element that indicates whether or not a ship has satellite navigation.
- ooo. Sci-Complement - A three character data element that contains the number of scientists that can be accommodated on a cruise.
- ppp. Seismic-Profiling - A one character data element that indicates whether or not a ship has seismic profiling capability.
- qqq. Shafts - A one character data element that contains the number of shafts used by the ship for propulsion.
- rrr. Ship-Owner - A thirty character data element that contains the name of the organization that owns this ship.
- sss. Ship-Type - A thirty character data element that contains the word or phrase description of the major mission of the ship.
- ttt. Side-Scan - A one character data element that indicates whether or not a ship has side scan sonar.
- uuu. Sname - A twenty-one character data element that contains the short name often used to identify a ship, i.e., BENT for USNS SILAS BENT.
- vvv. Sounding-Sys-Deep - A twelve character data element that identifies the ship's principal system for echo sounding in deep water.
- www. Sounding-Sys-Shallow - An eighteen character data element that identifies the ship's principal system for echo sounding in shallow water.
- xxx. SSB-Comms - A one character data element that indicates whether or not a ship has single sideband communication.

yyy. Stabilizer - A one character data element that indicates whether or not a ship has stabilizers.

zzz. Stable-Table - A one character data element that indicates whether or not a ship has a stable table.

aaaa. Utility-Boats - A forty character data element that contains information on small boats aboard, expressed as 12233/4455/6677//..., where

1 = Y or N to tell if a small boat is board,
22 = type of small boat, where

SL = Survey Launch	RI = Rubber Inflatable
UT = Utility	SK = Skiff
BW = Boston Whaler	DI = Dive Boat
UN = Unknown	VP = LCVP
BT = Buoy Tender	

33 = length of boat in feet, and
4455/6677 = repetitive scheme for other types and lengths

bbbb. VHF-Comms - A one character data element that indicates whether or not a ship has VHF communications.

cccc. Wet-Lab - A one character data element that indicates whether or not a ship has a wet lab.

dddd. Where-Built - A twenty-five character data element that contains the name of the City, State, and Country in which the ship was built.

eeee. Winch 1 - A twenty-seven character data element that contains winch information in the following form:

122334566666.777/899999.000, where

1 = Y or N to indicate if winch exists
22 = major type or use of winch, where

DR = Dredge	TR = Travel
OC = Oceanographic	HY = Hydrographic
CO = Coring	BT = Bathythermographic
ST = Std	MA = Magnetometer
DS = Deep Sea	AN = Anchor
UT = Utility	SE = Seine
HA = Hand	TO = Towing
WD = Wire Drag	UN = Unknown
OT = Other	

33 = secondary type or use, using above codes,
4 = number of slip rings (if rings exist but the number is unknown, Y is entered)
5 = type of wire, where C is conductor cable and W is wire rope,
66666 = length of wire in feet,

.777 = diameter of wire (if greater than .999 inches, use first digit to left of decimal),
899999.000 = type, length, diameter of wire on secondary drum, if applicable.

- ffff. Winch 2 - Same as above for a second winch.
- gggg. Winch 3 - Same as above for a third winch.
- hhhh. Winch 4 - Same as above for a fourth winch.
- iiii. Winch 5 - Same as above for a fifth winch.
- jjjj. Winch 6 - Same as above for a sixth winch.
- kkkk. Winch 7 - Same as above for a seventh winch.
- llll. Winch 8 - Same as above for an eighth winch.
- mmmm. Winch 9 - Same as above for a ninth winch.
- nnnn. Winch 10 - Same as above for a tenth winch.
- oooo. Update-Date - A six character data element that contains the date of the last characteristics file update for a ship.

APPENDIX 2F

OTIS SUBJECT HIERARCHY TABLE AND DEFINITION GLOSSARY

1. SUBJECT HIERARCHY TABLE

- a. This is a list of subjects covered in the OTIS. This list is a subset of the OMIS Subject List consisting of subjects divided into three levels that go from general to specific.

The user may display or query on either the subject by name (under SUBJECT NAME) or its code (under SUBJECT CODE):

(1) Acoustics	1
Measurement Systems	101
Receiver	10101
Source	10102
Models	102
Active Sonar	10201
Noise	10202
Propagation Loss	10203
Reverberation	10204
Noise	103
Water Noise	10301
Transmission	104
Signal Characteristics	10401
(2) Meteorology	2
Instrumentation	201
Models	202
Physical	203
Air-Sea Interaction	20301
Cloud Cover	20302
Fog	20303
Precipitation	20304
Temperature	20305
Tropical Storms	20306
Winds	20307
Pollution	204
Prediction	205
(3) Oceanography	3
Biology	301
Plankton	30101
Engineering	302

Geology-Geophysics	303
Bathymetry	30301
Geodesy	30302
Gravity	30303
Magnetics	30304
Sea Floor Structure	30305
Sediment Dynamics	30306
Seismology	30307
Models	304
Physical	305
Air-Sea Interaction	30501
Conductivity	30502
Currents	30503
Density	30504
Depth	30505
Eddies	30506
Internal Waves	30507
Navigation	30512
Radiation	30508
Salinity	30509
Sampling	30510
Sea Ice	30511
Sea Surface Temperature	30512
Sound Velocity	30513
Surface Waves	30514
Temperature Structure	30515
Tides	30516
Transparency	30517
Submersibles	306
 (4) Remote Sensing	 4
Bathymetry	401
Currents	402
Data Processing	403
Data Transmission	404
Ice Coverage	405
Instrumentation	406
Aircraft	40601
Buoy	40602
Satellite	40603
Ship	40604
Internal Waves	407
Platform	408
Aircraft	40801
Buoy	40802
Satellite	40803
Ship	40804
Surface Waves	409
Technology	410
Temperature	411

2. OTIS DATA ELEMENT GLOSSARY BY TYPE

a. Personnel Expertise

- (1) TYPE. The type of technology under consideration (i.e., "personnel expertise.")
- (2) RECORD NUMBER. Sequence number of the record in the data base.
- (3) KEYWORD. (Five fields available.) Specific term(s) taken from context of information used to build the record.
- (4) SUBJECT CODE. See Appendix 2F Part 1.
- (5) SUBJECT NAME. (Nine fields available.) See Appendix 2F Part 1.
- (6) NAME. Full name of the person under consideration.
- (7) ORGANIZATION. Organization with which the person is associated.
- (8) SUBORGANIZATION. Subunit of ORGANIZATION with which the person is associated.
- (9) TELEPHONE NUMBER. Telephone number of the person, including area code and/or extension.
- (10) TITLE. Job title of the person, such as Director, Magnetism Division or Head, Analysis Branch.
- (11) POSITION. Position of the person, such as Oceanographer, Engineer, etc.
- (12) RANK. Rank or grade of the person.
- (13) MANAGERIAL LEVEL CODE. One of the following ten codes:
 - 1 - Director or Head (i.e., the top civilian manager in the activity)
 - 2 - Associate Director, Associate Head or Deputy (i.e., the second level of civilian line management if the second level does not fall into one of the categories listed below)
 - 3 - Department Head
 - 4 - Division Head
 - 5 - Branch Head
 - 6 - Section Head
 - 7 - Unit Head

8 - Shop Head

9 - Any other supervisor when one of the above codes is not applicable

10 - Non-supervisory

(14) SUPERVISORY POSITION CODE. One of the following eight codes:

1 - Trainee/Intern/Apprentice

2 - Upward Mobility Trainee

3 - Full Performance/Journeyman Level

4 - Worker/Leader

5 - First-Level Supervisor

6 - Second-Level (or higher) Supervisor

7 - Manager

8 - None of the Above

(15) PROFESSIONAL CODE. One of the following eight codes:

1 - Consultant

2 - Scientist or Engineer

3 - Other Professional

4 - Subprofessional or Technician

5 - Manager or Administrator

6 - Clerical

7 - Service

8 - Craftsman or Operative

(16) DEGREE. (Three fields available.) College Degree(s) of the person, if any.

(17) MAJOR. (Three fields available.) College major(s) of the person, if any.

(18) DEGREE YEAR. (Three fields available.) Year(s) college degree(s) were awarded to the person, if any.

(19) INFORMATION DATE. Date as of which information is current for the record.

(20) COMMENTS. (Unlimited length.) Additional information on the person.

b. Hardware and c. Technique

- (1) TYPE. The type of technology under consideration (i.e., "hardware" or "technique").
- (2) RECORD NUMBER. Sequence number of the record in the data base.
- (3) KEYWORD. (Five fields available.) Specific term(s) taken from context of information used to build the record.
- (4) SUBJECT CODE. See Appendix 2F Part 1.
- (5) SUBJECT NAME. (Nine fields available.) See Appendix 2F Part 1.
- (6) POC NAME. (Three fields of each of last and first names available.) Point(s) of contact knowledgeable of hardware or technique under consideration.
- (7) POC ORGANIZATION. (Three fields available.) Organization(s) of point(s) of contact.
- (8) POC PHONE NUMBER. (Three fields available.) Telephone number(s) of point(s) of contact, including area code and/or network and/or extension.
- (9) SPONSOR ORG. Name of sponsoring organization if applicable.
- (10) SPONSOR SUBORG. Subunit of sponsoring organization such as Division, Laboratory or Code.
- (11) SPONSOR ADDRESS. City, state, and country of sponsoring organization.
- (12) ACTION ORGANIZATION. Name of action organization if applicable.
- (13) ACTION SUBORG. Subunit of action organization such as Division, Laboratory or Code.
- (14) ACTION ORG ADDRESS. City, state, and country of action organization.
- (15) GENERIC NAME. Generic name of the hardware or technique under consideration. Examples include "Buoy," "Bathymograph," and "Sea Ice Forecasting."
- (16) DESIGNATOR. Abbreviation, acronym, or Navy-assigned or manufacturer's model number associated with the hardware or technology under consideration. Examples include "XBT" for expendable bathymograph, "HALS" for Hydrographic Airborne Laser Sounder, and "CTD MARK III" for the Neil Brown CTD.

- (17) TITLE. Full nomenclature of the hardware or technique under consideration.

NOTE: Here are two examples of the above three fields, one each for hardware and technique:

TYPE	GENERIC NAME	TITLE	DESIGNATOR
Technique	Wave Observation	Littoral Environment Observation Program	LEO
Hardware	Recorder	Submersible Tide Recorder	Model 2820-E

- (18) STATUS. One of the following choices:

HARDWARE	TECHNIQUE
R & D	Experimental
Prototype	Validated
Operational	
Inactive	

- (19) PLATFORM. One of the following choices:

HARDWARE OR TECHNIQUE	
Ship	Airborne
Buoy	Pier/Offshore Platform
Moored	Drifting
Underwater	Shore Installation
Satellite	Ship/Shore
Mobile	Specialized

- (20) CONTRACT NUMBER. Navy contract number if applicable.
- (21) PROJECT NAME. Acronym, abbreviation or word given to the project, if any, associated with TITLE and generally understood by the oceanographic community (i.e., JASIN, JOIDES, POLYMODE, etc.).
- (22) BIBLIO-AUTHOR. (Three fields available.) All authors of report(s) or document(s) identified as pertinent to the record.
- (23) BIBLIO-SOURCE. (Three fields available.) Date, title, document number (if applicable), and publisher of report(s) or document(s) identified as pertinent to the record.
- (24) INFORMATION DATE. Date as of which information is current for the record.
- (25) COMMENTS. (Unlimited length.) Additional information on TITLE.

d. Model

- (1) TYPE. The type of technology under consideration (i.e., "model").
- (2) RECORD NUMBER. Sequence number of the record in the data base.
- (3) KEYWORD. (Five fields available.) Specific term(s) taken from context of information used to build the record.
- (4) SUBJECT CODE. See Appendix 2F Part 1.
- (5) SUBJECT NAME. (Nine fields available.) See Appendix 2F Part 1.
- (6) POC NAME. (Three fields of each of last and first names available.) Points of contact knowledgeable of model under consideration.
- (7) POC ORGANIZATION. (Three fields available.) Organization(s) of point(s) of contact.
- (8) POC PHONE NUMBER. (Three fields available.) Telephone numbers of point(s) of contact, including area code and/or network and/or extension.
- (9) SPONSOR ORG. Name of sponsoring organization if applicable.
- (10) SPONSOR SUBORG. Subunit of sponsoring organization such as Division, Laboratory or Code.
- (11) SPONSOR ADDRESS. City, state, and country of sponsoring organization.
- (12) RESIDENT ORG. Organization at which model is compiled on a computer.
- (13) RESIDENT SUBORG. Subunit of resident organization at which model is compiled on a computer.
- (14) RESIDENT ADDRESS. City, state, and country of resident organization.
- (15) GENERIC NAME. Generic name of the model under consideration. Examples include "wave model" and "acoustic model."
- (16) DESIGNATOR. Abbreviation or acronym associated with the model under consideration. An example is "SOWM" for the Spectral Ocean Wave Model.
- (17) TITLE. Full nomenclature of the model under consideration.
- (18) STATUS. One of the following choices:

R & D
Prototype
Validated

- (19) CONTRACT NUMBER. Navy contract number if applicable.
- (20) PROJECT NAME. Acronym, abbreviation or word given to the project, if any, associated with the model and generally understood by the oceanographic community (i.e., JASIN, JOIDES, POLYMODE, etc.).
- (21) BIBLIO-AUTHOR. (Three fields available.) All authors of report(s) or document(s) identified as pertinent to the record.
- (22) BIBLIO-SOURCE. (Three fields available.) Date, title, document number (if applicable), and publisher of report(s) or document(s) identified as pertinent to the record.
- (23) INFORMATION DATE. Date as of which information is current for the record.
- (24) RESIDENT COMPUTER. (Three fields available.) The type of computer(s) on which model currently resides at the resident organization.
- (25) HOST COMPUTER. (Six fields available.) The type of computer(s) on which model is able to be run.
- (26) REQUIRED INPUT. (Six fields available.) Names of subroutines, data files or other computer programs required as input for the model.
- (27) COMMENTS. (Unlimited length.) Additional information on the hardware or technique under consideration.

e. Facility

- (1) TYPE. The type of technology under consideration (i.e., "Facility").
- (2) RECORD NUMBER. Sequence number of the record in the data base.
- (3) KEYWORD. (Five fields available.) Specific term(s) taken from context of information used to build the record.
- (4) SUBJECT CODE. See Appendix 2F Part 1.
- (5) SUBJECT NAME. (Nine fields available.) See Appendix 2F Part 1.
- (6) POC NAME. (Three fields of each of last and first names available.) Points of contact knowledgeable of facility under consideration.
- (7) POC ORGANIZATION. (Three fields available.) Organization(s) of point(s) of contact.

- (8) POC PHONE NUMBER. (Three fields available.) Telephone number(s) of point(s) of contact, including area code and/or network and/or extension.
- (9) FACILITY. Name of facility under consideration.
- (10) FACILITY ADDRESS. City, state, and country in which facility is located.
- (11) NUMBER OF PERSONNEL. Total personnel strength of facility under consideration.
- (12) SUPERVISOR ORG. The next higher organizational level over the facility under consideration.
- (13) BIBLIO-AUTHOR. (Three fields available.) All authors of report(s) or document(s) identified as pertinent to the record.
- (14) BIBLIO-SOURCE. (Three fields available.) Date, title, document number (if applicable), and publisher of report(s) or document(s) identified as pertinent to the record.
- (15) INFORMATION DATE. Date as of which information is current for the record.
- (16) SUBFACILITY. (Six fields available.) Facility(ies) which is (are) subunit(s) of the facility under consideration.
- (17) EQUIPMENT. (Six fields available.) Major equipment(s) which is (are) part of the facility under consideration.
- (18) COMMENTS. (Unlimited length.) Additional information on the facility under consideration.

APPENDIX 2G

DEFINITION OF OCEANOGRAPHIC ENVIRONMENTAL REFERENCE SERVICE CRUISE INVENTORY DATA ELEMENTS

1. Project - List project name or identifier or the name of the sponsoring program.
2. Cruise - Cruise identifier as assigned by operating agency.
3. Status - P - Planned Cruise C - Completed Cruise
4. Sponsor Organization - Enter the name of the organization in charge of the operation, e.g., NAVOCEANO.
5. Ship/Platform Name - The name or official designation of the ship, plan or other survey platform used for this effort.
6. Platform Type - Enter code from the following table:

01 - Research/Survey Ship	09 - Submerged Float (Drifting)
02 - Other Ship	10 - Fixed Platform
03 - Satellite	11 - Fixed Coastal Station
04 - Balloon	12 - Drifting Ice
05 - Fixed-Wing Aircraft	13 - Submersible
06 - Anchored Buoy	14 - Other
07 - Drifting Buoy	15 - Rotary-Wing Aircraft
08 - Submerged Float (Anchored)	
7. Start Date - First day of cruise - format YYMMDD.
8. Stop Date - Last day of cruise - format YYMMDD.
9. Miles - Miles steamed or flown during cruise.
10. General Ocean Area - Enter the code(s) for the water bodies in which the cruise occurred, using the definitions from the table found in Appendix 2G.
11. Marine Zones - Enter the code(s) for the marine zones covered during this cruise from the following table:

01 - River Mouth, Estuary	04 - Coastal Zone
02 - Zone Connected with the Sea (Harbors, Lagoons, etc.)	05 - Offshore Zone in Inland Sea
03 - Intertidal or Nearshore Zone	06 - Open Sea (Ocean)
	07 - Continental Shelf

- | | |
|-------------------------------------|----------------------------------|
| 08 - Continental Margin | 13 - Great Lakes (U.S. & Canada) |
| 09 - Major Ridges, Fractures | 14 - Lakes (Other) |
| 10 - Seamounts, Guyouts, and Atolls | 99 - Other |
| 11 - Abyssal Plain | |
| 12 - Troughs | |

12. Declared National Program - Check yes or no according to whether the operation is or is not a part of a "Declared National Program."
13. Exchange Restricted - Check yes if any part of the data is subject to exchange restrictions.
14. Cooperative Program - If the cruise is part of a cooperative program, name the program.
15. International Coordinator - If the cruise is part of an internationally coordinated program, list the coordinating agency.
16. Participating Agency - If another agency participates in or assists in the cruise, enter the name of that agency.
17. Scientist in Charge - Last Name, First Name, Middle Initial
 Organization: e.g., NAVOCEANO
 Organization Code: e.g., 34213
 Organization Address: Mailing Address, e.g.,
 NSTL Station
 City, State, and Zip: No explanation needed
18. Comments - Add as many sixty character lines of comment as necessary to describe lost time, unusual weather, equipment failures, etc.

APPENDIX 2H

DEFINITION OF OCEANOGRAPHIC ENVIRONMENTAL REFERENCE SERVICE STATION DATA INVENTORY DATA ELEMENTS

1. Data Status - Enter appropriate code from table.

1 - Collection Planned	4 - Processing Completed
2 - Collected, Unprocessed	5 - Archived
3 - Being Processed	
2. Status Date - Date of processing status change.
3. Data Type - Code for data type as shown in Appendix 2K.
4. Measuring Device/Technique - Name the device, manufacturer, model no., etc., or technique used to collect the data.
5. Classification - Enter classification as "U," "C," "S," or "T." The classification will not be carried in the unclassified data base.
6. Release Authority - Enter acronym and code (if any) of the release authority, e.g., NAVOCEANO 013.
7. Storage Medium (A) - How the collected data are archived.

PB - Manuscript or Publication	DR - Digital Recording on Mag Tape
PR - Original Automatic Printing	PH - Photograph
GR - Graph Recording	SA - Samples
PC - Punched Card	MF - Microfilm
PT - Punched Tape	LI - Computer Output Listing
AR - Analog Recording on Mag Tape	
8. Point of Contact - Name, address and phone number of the person who should be contacted for data retrieval. For phone numbers, enter Autovon number, FTS number, area code, commercial number and extension as applicable.
9. Date - Log date of the beginning of the station.
10. Latitude - Enter degrees, minutes, and seconds and the proper hemisphere designator.
11. Longitude - Enter degrees, minutes, and seconds and the proper hemisphere designator.
12. Height/Depth - Enter the height or depth of the observation or sensor. For profiles give the lowest depth.

13. Units - Specify the units for the height/depth.

FT - Feet
YD - Yards
FM - Fathoms

MI - Miles
MR - Meters
KM - Kilometers

14. Number of Observations - How many data samples or observations were taken at this site?

15. Sampling Rate - Indicate how often data are recorded, e.g., 30 OBS/MR, 1 OBS/MIN, etc.

16. Recording Format - Enter appropriate code(s).

1 - Manuscript or Publication	6 - Analog Recording on Mag Tape
2 - Automatic Printing	7 - Digital Recording on Mag Tape
3 - Graph Recording	8 - Photograph
4 - Punch Card	9 - Samples
5 - Punched Tape	0 - Other or Unspecified

17. Data Quality - Enter appropriate code.

1 - Good Data - Few or no gaps or bad data points
2 - Fair Data - Some - gaps or bad data points
3 - Poor Data - Many gaps or bad data points
4 - Unusable Data
5 - Unknown

APPENDIX 2I

DEFINITION OF OCEANOGRAPHIC ENVIRONMENTAL REFERENCE SERVICE UNDERWAY DATA INVENTORY DATA ELEMENTS

1. Data Status - Enter appropriate code from table.

1 - Collection Planned	4 - Processing Completed
2 - Collected, Unprocessed	5 - Archived
3 - Being Processed	

2. Status Date - Date of processing status change.

3. Data Type - Code for data type as shown in Appendix 2K.

4. Measuring Device/Technique - Name the device, manufacturer, model no., etc., or technique used to collect the data.

5. Total Mileage - Total mileage of this data type collected during this cruise.

6. Classification - Enter classification as "U," "C," "S," or "T." The classification will not be shown in the unclassified data base.

7. Release Authority - Enter acronym and code (if any) of the release authority, e.g., NAVOCEANO 013.

8. Storage Medium (A) - How the collected data are archived.

PB - Manuscript or Publication	DR - Digital Recording on Mag Tape
PR - Original Automatic Printing	PH - Photograph
GR - Graphic Recording	SA - Samples
PC - Punched Card	MF - Microfilm
PT - Punched Tape	LI - Computer Output Listing
AR - Analog Recording on Mag Tape	

9. Point of Contact - Name, address, and phone number of the person who should be contacted for data retrieval. For phone numbers, enter Autovon number, FTS number, area code, commercial number and extension as applicable.

10. WMO Square - Enter the 10-degree identifier.

11. Height/Depth - Height or depth or airborne or towed sensors. For towed profilers, use the deepest depth. This column has no significance for bathymetry, navigation, and some other data types.

12. Units - Specify the units for the height/depth.

FT - Feet	MI - Miles
YD - Yards	MR - Meters
FM - Fathoms	KM - Kilometers

13. Number of Miles - Miles of this data type collected on this WMO square.

14. Sampling Rate - Time interval between recorded observations, e.g., 15 SEC, 1 MIN, 90 SEC, 3 MIN, etc.

15. Recording Format - Enter appropriate code(s).

1 - Manuscript or Publication	6 - Analog Recording on Mag Tape
2 - Automatic Printing	7 - Digital Recording on Mag Tape
3 - Graph Recording	8 - Photograph
4 - Punched Card	9 - Samples
5 - Punched Tape	0 - Other or Unspecified

16. Data Quality - Enter appropriate code.

- 1 - Good Data - Few or no gaps or bad data points
- 2 - Fair Data - Some gaps or bad data points
- 3 - Poor Data - Many gaps or bad data points
- 4 - Unusable Data
- 5 - Unknown

APPENDIX 2J

WATER BODIES OF THE WORLD

- | | |
|------------------------|-----------------------------|
| 1. 8D - Adriatic Sea | 2. 8G - Aegean Sea |
| 3. 8Y - Alboran Sea | 4. 4D - Amundsen Sea |
| 5. 5Y - Gulf of Anadyr | 6. 6N - Andaman Sea |
| 7. 6R - Arabian Sea | 8. 4U - Arafura Sea |
| 9. 8R - Aral Sea | 10. 5A - Arctic Ocean |
| 11. 1P - Baffin Bay | 12. 8J - Balearic Sea |
| 13. 4L - Bali Sea | 14. 7B - Baltic Sea |
| 15. 4B - Banda Sea | 16. 5B - Barents Sea |
| 17. 6F - Bass Strait | 18. 6B - Bay of Bengal |
| 19. 1B - Bay of Biscay | 20. 1F - 5U - Bay of Fundy |
| 21. 5U - Beaufort Sea | 22. 4G - Bellingshausen Sea |
| 23. 5D - Bering Sea | 24. 5R - Bering Strait |
| 25. 4K - Bismarck Sea | 26. 8B - Black Sea |
| 27. 8P - Bosporus | 28. 1C - Bristol Channel |
| 29. 1X - Caribbean Sea | 30. 8C - Caspian Sea |

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| 31. 3C - Celebes Sea | 32. 40 - Ceram Sea |
| 33. 5C - Chukchi Sea | 34. 5E - Coastal Waters of Southeast
Alaska and British Columbia |
| 35. 4C - Coral Sea | 36. 8U - Dardanelles |
| 37. 1V - Davis Strait | 38. 1D - Denmark Strait |
| 39. 2D - Drake Passage | 40. 3E - East China Sea |
| 41. 5S - East Siberian Sea | 42. 1E - English Channel |
| 43. 4F - Flores Sea | 44. 3F - Formosa Strait |
| 45. 2J - Gulf of San Jorge | 46. 2M - Gulf of San Matias |
| 47. 6G - Great Australian Bight | 48. 5G - Greenland Sea |
| 49. 6D - Gulf of Aden | 50. 5F - Gulf of Alaska |
| 51. 6Q - Gulf of Aqaba | 52. 7T - Gulf of Bothnia |
| 53. 3L - Gulf of California | 54. 4P - Gulf of Carpentaria |
| 55. 7F - Gulf of Finland | 56. 1G - Gulf of Guinea |
| 57. 8X - Gulf of Lions | 58. 1M - Gulf of Mexico |
| 59. 6M - Gulf of Oman | 60. 7H - Gulf of Riga |
| 61. 1T - Gulf of St. Lawrence | 62. 6W - Gulf of Suez |
| 63. 3T - Gulf of Thailand | 64. 3G - Gulf of Tonkin |
| 65. 3H - Halmahera Sea | 66. 1H - Hudson Bay |
| 67. 1U - Hudson Strait | 68. 6A - Indian Ocean |

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| 69. 3N - Inland Sea | 70. 1K - Inner Seas |
| 71. 8N - Ionian Sea | 72. 1R - Irish Sea |
| 73. 4J - Java Sea | 74. 5K - Kara Sea |
| 75. 7K - Kattegat | 76. 3R - Korea Bay |
| 77. 1L - Labrador Sea | 78. 6L - Laccadive Sea |
| 79. 9E - Lake Erie | 80. 9H - Lake Huron |
| 81. 9M - Lake Michigan | 82. 9N - Lake Ontario |
| 83. 9S - Lake Superior | 84. 5P - Laptev Sea |
| 85. 8L - Ligurian Sea | 86. 5L - Lincoln Sea |
| 87. 3I - Luzon Strait | 88. 4M - Makassar Strait |
| 89. 8E - Mediterranean, Eastern | 90. 8W - Mediterranean, Western |
| 91. 3M - Molucca Sea | 92. 6Z - Mozambique Channel |
| 93. 1A - North Atlantic Ocean | 94. 3A - North Pacific Ocean |
| 95. 1N - North Sea | 96. 5T - Northwest Passage |
| 97. 5N - Norwegian Sea | 98. 1J - Panama Canal |
| 99. 6P - Persian Gulf | 100. 3P - Philippine Sea |
| 101. 3X - Gulf of Chihli | 102. 6E - Red Sea |
| 103. 2R - Rio de la Plata | 104. 4R - Ross Sea |

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|--------------------------------|-------------------------------|
| 105. 1Q - St. Georges Channel | 106. 9L - St. Lawrence Seaway |
| 107. 3B - Gulf of Sakhalin | 108. 6S - Savu Sea |
| 109. 2S - Scotia Sea | 110. 8Z - Sea of Azov |
| 111. 3J - Sea of Japan | 112. 8M - Sea of Marmara |
| 113. 3Q - Sea of Okhotsk | 114. 3Z - Singapore Strait |
| 115. 1S - Skagerrak | 116. 4S - Solomon Sea |
| 117. 2A - South Atlantic Ocean | 118. 3U - South China Sea |
| 119. 4A - South Pacific Ocean | 120. 8S - Strait of Gibraltar |
| 121. 6C - Strait of Malacca | 122. 6U - Suez Canal |
| 123. 3S - Sulu Sea | 124. 4T - Tasman Sea |
| 125. 3D - Tatar Strait | 126. 4E - Gulf of Bone |
| 127. 3V - Gulf of Tomini | 128. 6T - Timor Sea |
| 129. 8T - Tyrrhenian Sea | 130. 2W - Weddell Sea |
| 131. 5W - White Sea | 132. 3Y - Yellow Sea |
| 133. 3K - Shelikhov Gulf | |

APPENDIX 2K

OCEANOGRAPHIC ENVIRONMENTAL REFERENCE SERVICE (OERS) DATA TYPE CODES

G - Geology, Geophysics, & Hydrography

GL - Measurements made at a specific location

- G01 - Dredge
- G02 - Grab
- G03 - Core - Rock
- G04 - Core - Soft Bottom
- G05 - Sampling by Divers
- G06 - Sampling by Submersible
- G07 - Drilling
- G08 - Bottom Photography
- G09 - Sea Floor Temperature (one (1) MR from bottom)
- G10 - Acoustical Properties of the Sea Floor
- G11 - Engineering Properties of the Sea Floor
- G12 - Magnetic Properties of the Sea Floor
- G13 - Gravimetric Properties of the Sea Floor
- G14 - Radioactivity Measurements
- G70 - Other Measurements

GU - Measurements Underway

- G21 - Motion Picture of Sea Floor
- G22 - Bathymetry - Wide Beam
- G23 - Bathymetry - Narrow Beam
- G24 - Side Scan Sonar
- G25 - Seismic Reflection
- G27 - Gravimetry
- G28 - Magnetism
- G29 - Other Measurements
- G30 - Bathymetry - Array Sonar
- G80 - Other Measurements
- G81 - 3.5 KHZ Bathymetry

GS - Types of Studies

- G31 - Physical Analysis of Sediments
- G32 - Chemical Analysis of Sediments
- G33 - Paleothermy
- G34 - Paleomagnetism and Rock Magnetism
- G35 - Paleontology
- G36 - Geothermy
- G37 - Geochronology
- G38 - Mineral and Fossil Resources

G39 - Littoral Zone Studies

G90 - Other Measurements

D - Dynamics

D01 - Current Meters (Number of Stations)

D02 - Current Meters (Average Duration of Measurement Days)

D03 - Currents Measured from Ship Drift

D04 - GEK

D05 - Drifters

D06 - Swallow Floats

D07 - Drift Cards

D08 - Bottom Drifters

D09 - Tidal Observation

D90 - Other Measurements

M - Meteorology

M01 - Upper Air Observations

M02 - Incident Radiation

M03 - Air-Sea Interface Studies

M04 - Ice Observations

M05 - Occasional Standard Measurements

M06 - Systematic Standard Measurements

M90 - Other Measurements

H - Descriptive Oceanography

HS - Surface

H01 - Continuous Temperature Recording

H02 - Continuous Salinity Recording

H03 - Discrete Temperature Measurements

H04 - Discrete Salinity Measurements

HB - Near Sea Floor

H05 - Continuous Temperature Recording

H06 - Continuous Salinity Recording

H07 - Discrete Temperature Measurements

H08 - Discrete Salinity Measurements

HP - Physical

H09 - Classical Oceanographic Stations

H10 - Vertical Profiles (STD/CTD)

H11 - Sub-Surface Measurements Underway

H12 - Mechanical Bathythermographs

H13 - Bathythermograph - Expendable

H14 - Sound Velocity Stations

H15 - Acoustic Stations

H16 - Transparency

H17 - Optics

H18 - Diffusion (Dynamic)

H80 - Other Measurements

HC - Chemical

- H21 - Oxygen
- H22 - Phosphates
- H23 - Total-P
- H24 - Nitrates
- H25 - Nitrites
- H26 - Silicates
- H27 - Alkalinity
- H28 - PH
- H29 - Chlorinity
- H30 - Trace Elements
- H31 - Radioactivity
- H32 - Isotopes
- H33 - Dissolved Gases
- H90 - Other Measurements

P - Pollution

- P01 - Suspended Solids
- P02 - Heavy Metals
- P03 - Petroleum Residues
- P04 - Chlorinated Hydrocarbons
- P05 - Other Dissolved Substances
- P06 - Thermal Pollution
- P07 - Waste Water - BOD
- P08 - Waste Water - Nitrates
- P09 - Waste Water - Microbiology
- P10 - Waste Water - Other
- P11 - Discolored Water
- P12 - Bottom Deposits
- P13 - Contaminated Organisms
- P90 - Other Measurements

B - Biology

- B01 - Primary Productivity
- B02 - Phytoplankton Pigments
- B03 - Seston
- B04 - Particulate Organic Carbon
- B05 - Particulate Organic Nitrogen
- B06 - Dissolved Organic Matter
- B07 - Bacterial and Pelagic Micro-Organisms
- B08 - Phytoplankton
- B09 - Zooplankton
- B10 - Neuston
- B11 - Nekton
- B12 - Invertebrate Nekton
- B13 - Pelagic Eggs and Larvae
- B14 - Pelagic Fish
- B15 - Amphibians
- B16 - Benthic Bacteria and Micro-Organisms
- B17 - Phytobenthos
- B18 - Zoobenthos

- B19 - Commercial Demersal Fish
- B20 - Commercial Benthic Molluscs
- B21 - Commercial Benthic Crustacea
- B22 - Attached Plants and Algae
- B23 - Intertidal Organisms
- B24 - Borers and Foulers
- B25 - Birds
- B26 - Mammals and Reptiles
- B27 - Deep Scattering Layers
- B28 - Acoustical Reflections on Marine Organisms
- B29 - Biologic Sounds
- B30 - Bioluminescence
- B31 - Vitamin Concentrations
- B32 - Amino Acid Concentration
- B33 - Hydrocarbon Concentrations
- B34 - Lipid Concentrations
- B35 - ATP-ADP-AMP Concentrations
- B36 - DNA-RNA Concentrations
- B37 - Taggings
- B80 - Other Measurements

BS - Types of Studies

- B51 - Identification
- B52 - Spatial and Temporal Distribution
- B53 - Monitoring and Surveillance
- B54 - Biomass
- B55 - Description of Communities
- B56 - Food Chains Energy Transfers
- B57 - Population and Environments
- B58 - Population Structures
- B59 - Taxonomy, Systematics, Classification
- B60 - Physiology
- B61 - Behavior
- B62 - Pathology, Parasitology
- B63 - Toxicology
- B64 - Gear Research
- B65 - Exploratory Fishing
- B66 - Commercial Fishing
- B67 - Aquaculture
- B90 - Other Measurements

N - Position (Navigation)

- N01 - Marine Navigation
- N02 - Air Navigation
- N03 - Land Positioning

APPENDIX 2L

DEFINITION OF COASTAL ENVIRONMENT REFERENCE SERVICE DATA ELEMENTS

Each data element in the Coastal Environment Reference Service (CERS) is defined and described below. The first part of each description is the element number and definition taken verbatim from the SHARP data definition for the UVAIS file.

The three different record types, each of which is related to a respective information form follow:

Type 1 - Data catalog records containing general information about research projects or data sets.

Type 2 - Data catalog records containing information about data observations at particular sites.

Type 3 - Model catalog records containing information about models that may be of interest to coastal investigators.

The final portion of each element description is an explanation of the type of information in the element (with examples where appropriate), a discussion of the use or purpose of the element if that is not self-evident, and the reason for input and output formats chosen for the element.

1. RCDID (Record Identification Number) - This is a two-part number assigned to each record in the file which uniquely identifies that record. The first part is a four digit number assigned sequentially in order of input to each research study or data set described in the file. The second part, separated from the first part by a hyphen, is a three digit serial number assigned to each record describing a site where data were collected for a particular study. Type 1 records, containing general information about a study or data set, have only a four digit identification number, while Type 2 records, containing site information, have two part numbers. Since each research study will have one or more sites where data are collected, the Type 1 (study) records must be related or cross-referenced in some way. This is accomplished by using the four digit Type 1 number to form the first part of the identification number for each related Type 2 record. Thus the record number is not only a unique identifier but also acts as a cross reference between related records. Type 3 records are numbered serially starting with 9950-001. Some thought was originally given to designing a record identification number that could contain information about the locations of data collection sites or about types of data collected. This type of identifier still requires a serial number for uniqueness when locators are duplicated, and if the cross-reference

feature is retained, the total package becomes unwieldy. Therefore, the simpler design of cross-reference serial numbers was selected.

2. PROC-DATE (Processing Date) - This is the date of the latest change made in a record.
3. INFO DATE (Information Date) - The date of information is entered in the format YYMM (year/month). This is the date of the latest information used in writing up a study. The date of information is a concept (intelligence cutoff date) used and understood in the intelligence community, but there is confusion about its use in this context. Sometimes the date on which the study is actually written up is mistakenly entered in this element. For recent and on-going studies the dates of information and writing-up usually are quite close, but for old studies, the dates may be several years apart if the information was taken from publications. Because of this confusion, the information date is not output, but the element is retained for possible use in the future.
4. STUDY (Study Name) - This element contains the name assigned to the study, data set, or model. It should be descriptive, giving an idea of the types of data and locations where they were collected. The name is entered in free text up to sixty characters. This size permits output of the name on one line when a teletype terminal is used having a maximum line length of seventy-two characters.
5. STUDY-TYPE (Study Type) - Studies are put into one or more of the following categories - site specific, data summary, long-time series, synoptic scale, or model. These categories, although not mutually exclusive, provide information that can be used in determining the possible usefulness of a data set. It is coded for ease of input and to facilitate querying.
6. DATA-TYPE (Type of Data) - The data are classified as real (measured) or synthetic (generated by models, e.g., wave hindcasts). This element is coded to facilitate input and querying.
7. PARAMETERS (Parameters) - A parameter is a generalized oceanographic, meteorologic, geologic, or geographic entity or phenomenon on which data are commonly collected. All parameters measured during a study or at a site or generated by a model are reported in this element. Examples of parameters, as we define them, are waves, tides, salinity, sediments, beach morphology, and bathymetry. The parameters are general so that their number is small and their categories are broad, both of which simplify the task of designing a query to retrieve all records of interest. For example, a user interested in surf observations can ask for "waves" and be assured of not missing any records. Element 48 (variable) is available if the user wants to be more specific in his query. Parameters are coded for uniformity and ease of input and to facilitate querying.
8. MEDIUMS (Mediums) - Data can be stored or recorded on various media: magnetic tape, punched cards, field notes, etc. The storage media are noted in this element which is coded to facilitate input and promote uniformity by providing a fixed set of terms that can be used.

9. DATA-AVAL (Data Availability) - Restrictions on the availability or use of the data or model are noted in this element. It is coded for uniformity and ease of input.
10. ANALYSES (Analyses) - Often data are not analyzed until several years after collection. This element is used to record the state of analysis of the data (analyzed, not analyzed, or unknown). If the data have been analyzed, the user is referred to the remarks section for a brief description of the analysis procedures. This element is coded for uniformity and ease of input and for query purposes.
11. SP-REC-CNT (Type 2 Records) - The number of Type 2 records associated with a given study is recorded in this element. It is classified as numeric so it can be used in mathematical calculations (mainly addition) by CERS programs.
12. POC-NAME (Contact Name) - The name of the person or agency to contact in order to obtain data or a model is entered in free text. Size limited to sixty characters to permit output on one line by a teletype with line length of seventy-two characters. The contact's address is entered in elements 13 through 15.
13. POC-INST (Point of Contact Institution) - Name of the institution or agency to contact is entered. See element 12 for discussion.
14. POC-ADD (POC-Address) - Street address of the contact is entered. See element 12 for discussion.
15. POC-STATE (POC-State) - The contact's city and state is entered. See element 12 for discussion.
16. POC-PHONE (POC-Telephone) - The area code and telephone number of the contact is entered.
17. PUB-DATA (Publications) - Publication references pertaining to the study or model are entered in free text into groups of sixty or fewer characters. The maximum entry size of sixty characters enables each entry to be output, on one line by a teletype. The sixty character, repeating entry format allows the coder to explicitly define each line of output, and it greatly facilitates corrections and updates because any entry in a repeating element can be selectively changed or deleted and additional entries can be added.
18. SOURC-DATA (Sources) - The sources of information used in writing up a study or model are entered in free text. Sources include publications, personal contacts, and the name of the person who wrote up the study. This information is used in-house to assist in updating and correcting records. The maximum size permits output on one line by a teletype.
19. SPONSOR (Sponsor) - The names of funding agencies are listed in free text. It is not possible to query on this element although there are situations in which it would be desirable to be able to retrieve all studies funded by a single agency. Therefore, in the event of a file revision, consideration should be given to making sponsor a coded, element. The maximum size permits output on one line by a teletype.

20. PRIN-INVEST (Principal Investigator) - The names of principal investigators are entered in free text. The maximum size limitations permits output on one line by a teletype.
21. REMARKS (Remarks) - Any amplifying or explanatory information is entered in free text. All occurrences of "see remarks" in any other elements must be explained here. Remarks generally include a brief description or abstract of the study, data file, or model, types of instruments used, survey line densities, etc.
- 22-28. These numbers have not been assigned to any elements.
29. LATITUDE (Latitude) - The latitude of the data collection site is entered in degrees, minutes, and seconds north or south. The actual input size is seven characters. All input should be left justified and spaced filled on the right. For sites covering a large area it is sometimes appropriate to enter coordinates for the vertices of a polygon outlining the area or for the endpoints of a length of shoreline.
30. LONGITUDE (Longitude) - The longitude of the site is entered in degrees, minutes, and seconds east or west. This element is similar to latitude (see element 29).
31. WMO-AREA (WMO-Area) - The World Meteorological Organization (WMO) area code is entered here. This is a numeric code derived from latitude and longitude which can be used to designate areas as large as a ten degree square and as small as a one minute square. When the file was designed, the WMO code was envisioned as a primary location designator for use in queries, but it proved to be cumbersome when the area to be searched was anything other than a 1-minute, 10-minute, 1-degree, or 10-degree square. Therefore, latitude and longitude are used almost exclusively, and area is retained only for possible future use.
32. COUNTRY (Country) - A two letter code for the country in which the site is located is entered here. The element is coded to facilitate input and querying. The codes used are those used by the Department of Defense.
33. OCEAN (Ocean) - A three letter code for the body of water nearest to the site is entered here. It is coded to facilitate input and querying.
34. AXSHORE (Across-The-Shore) - The location (onshore, nearshore, offshore) of the observation site on a transect perpendicular to the shoreline is entered. The element is repeating in case measurements were made in more than one zone. It is coded to facilitate input and querying. This element was included for possible use in conjunction with Dolan's and Hayden's classification of coastal environments which is based upon the organization of attributes across the coast and along the coast.
35. DEPTH (Depth) - The depth at the observation site is entered to the nearest whole number. This element is designated as numeric so that mathematical calculations may be performed. No use of this capability has been made but it could be used to determine the average depth of

a set of wave gauges. The maximum size is three digits because we are concerned mainly with shallow water coastal sites.

36. PLACE (Place Name) - The name of the town or geographical feature nearest to the site is entered in free text. The maximum size of sixty characters permits output on one line by a teletype.
37. SITE (Site Description) - Amplifying information on the observation site is entered in free text. This should be a refinement of the location given in element 36.
38. STATUS (Status) - This element gives the status of observations at the site - active, temporarily inactive, discontinued, or unknown. It is coded for uniformity, ease of input, and querying.
39. PERIOD-NUM (Period Number) - This is a housekeeping element used in conjunction with element 44 to relate dates of operation to modes and methods of observation. A period number is entered here for each set of dates entered in elements 40 and 41. The period numbers start at one and increase sequentially (1, 2, 3, 4, etc.). Usually only one character is required per entry, but a maximum size four is specified for spacing purposes on output.
40. START-DATE (Starting Date) - Starting dates are entered for each period of observation at the site. The input format is two digits each for the year, month, and day in that order. The dates are converted on output to day, month (three letter abbreviation), and year format.
41. STOP-DATE (Stop Date) - Ending dates are entered for each period of operation. See element 40 for a description of input and output formats.
42. LENGTH-YR (Length in Years) - For each period of observation (element 39) and set of dates (element 40 and 41), the length of that period (STOP-DATE START-DATE) is entered. If the site is currently active, the duration of observation up to the time of record input is entered. The element definition specifies two decimal places (DEC - 2) so that the duration must be entered in years to the nearest hundredth. The system assumes the input to be in whole and dec numbers. If one year is input it is assumed to be coded "0100" or for $\frac{1}{2}$ year should be entered as "0050." All entries require only four digit characters.
43. DATA-GAP (Gaps in Data Record) - The percentage of gaps in the data is entered for each period of observations. This percentage is equal to 100% times the actual number of good data points or records divided by the scheduled number. This element is coded for uniformity and use in queries.
44. PERIODS (Periods) - This is a housekeeping element used in conjunction with element 39 to relate operational information (dates, length, and gaps) to modes and methods of observation (frequency, method, and object) entered in elements 45-49. Each set of entries in element 40-43 represents one period of operation. Element 39 assigns a serial number (1, 2, 3, etc.) to each period. Each set of entries in 45-49 represents one mode of observation. Element 44 gives the numbers of operational periods

periods that apply to each mode of observation. For example: If 40-43 define four periods of operation and 45-49 describes three modes or objects of observations, then 39 will assign numbers 1, 2, 3, and 4 to the four periods and element 44 could ascribe periods 1-3 to the first two modes of observation and four to the third mode.

45. DATA-FREQ (Data Frequency) - The frequency at which the data are recorded is entered in free format. This element is used mainly for recording digitizing frequencies. See element 47 for an example.
46. RCD-LENGTH (Record Length) - The length of the data records is entered in free format. This is usually the length of time during which data are recorded during one observation. See element 47 for an example.
47. RDC-FREQ (Record Frequency) - The frequency of observations of data records is entered in free format. Elements 45, 46, and 47 are designed to handle the case of an analog gauge signal that is digitized at discrete intervals for a certain length of time every so many hours or days. For example, wave gauge signals are typically digitized at $\frac{1}{4}$ or $\frac{1}{2}$ second intervals (DATA-FREQ) for seventeen minutes (RCD-LENGTH) every three to six hours (RDC-FREQ). Most types of observations do not require all three elements. In the case of National Ocean Survey tide gauges which operate continuously, recording one data point every six minutes, DATA-FREQ would be "10/HR" and RCD-FREQ could be "continuous" or it could be omitted along with RCD-LENGTH. Another example is the case of daily beach surveys for which RCD-FREQ is "1/day" or "daily" and elements 45 and 46 are omitted.
48. VARIABLE (Variable) - A four digit code is entered for each variable measured. The first two digits of the code are the same as the parameter code (see element 7). The variables are subsets of the parameters; they specify in detail what attributes of the parameters are actually measured or observed. For example, the variables "wave height," "wave period," and "breaker angle" are all measurable attributes of the parameter "wave." Under the output report format designed for use with the original DMS, only six variables could be output in Type 2 records. If more than six variables are measured at a single site, more than one Type 2 record was input for that site. This element is coded for ease of input and uniformity.
49. METHOD (Method) - A five digit code is entered for the method used to measure each variable listed in element 48. The first two digits of the method code are the same as the parameter code (see element 7). Methods which apply to more than one parameter will have a separate code for each parameter. The variable and method codes are cross referenced to the parameter codes, so that having found the correct parameter code in a relatively small coding table, the coder then has to search only a portion of the large variable and method coding tables. To eliminate confusion between method and variable codes, the former were made one digit longer. This element is coded for uniformity and ease of input.

50. TYPE-INFO (Record Type) - A one digit code for record type (primary, secondary, or complementary) is entered. The determination of record type is a somewhat subjective process based on the parameters being measured and the time duration of the observations. Those parameters considered "primary" are waves, wind, tide, currents, bathymetry, sediments, and beach morphology. Records containing these parameters are classified as "primary" and all others are "secondary," unless the duration of the observation is so short that the data are considered to have very little statistical or predictive value by themselves. Records of short duration are coded as "complementary" because the data may be of value if used to complement another data set from a different source. The dividing line between primary or secondary and complementary depends on the time variability of the parameters under consideration. For highly variable parameters such as waves and wind, observations lasting less than one year are considered complementary. When both primary and secondary parameters are included in one Type 2 record, the record is given the highest applicable classification. The original procedure was to input a separate Type 2 record for each primary parameter observed at the site, but this resulted in large numbers of nearly duplicate records. All parameters are put together except when the limitation of six variables per record (see element 48) requires additional records, in which case the primary and secondary parameters are grouped into separate records.

51-60. These numbers have not been assigned to any elements.

61. MODEL-TYPE (Model Type) - A one digit code is entered for the type of model (numerical, simulation, statistical, graphic, etc.). This element is coded for ease of input and uniformity.
62. HRDWR-TYPE (Hardware Type) - A two digit code is entered for the type of hardware (digital, analog, hybrid, not applicable, etc.) used to run the model. This element is coded for uniformity and ease of input.
63. COMPUTER-TYPE (Computer) - The names and model numbers of computers on which the model has run or is running are entered in free text.
64. SOURC-LANG (Source Language) - A one digit code is entered for each computer language in which the model program is available. This element is coded for uniformity and ease of input.
65. OUT-MODE (Output Mode) - A two digit code is entered for each form of output (line printer, CRT display, etc.) available. This element is coded for uniformity and ease of input.
66. USABILITY (Usability) - A two digit code is entered for each level of usability that pertains to the mode. The usability levels are intended to indicate the ease or difficulty with which the model can be put into operation. Each level is described by word or phrase (untested, requires some programming, in use operationally, etc.). No guidelines have been established for determining usability; this is a subjective process based on the experience and intuition of the analyst. We do not test each model. This element is coded for uniformity and ease of input.

67. TIME-STEP (Time Step) - The best single time-step or range of time-steps for use in the model is entered in free format. Typical entries could be: 3-5 hours; hours-days, etc.
68. SPACE-SCALE (Space Scale) - The range of grid spacing of maximum utility in the model is entered in free format. Typical entries might be: 10-100 meters; 0.1-1.0 km; etc.
69. IN-GRID (Input Grid) - The number of dimensions (one dimensional, two dimensional, etc.) of input grid is entered in free format. The input grid defines the location of the points for which initial data values are supplied to the model. For example, some models require initial bathymetric data in a two dimensional array of points.
70. IN-AXES (Input Axes) - The name or orientation (alongshore, north-south etc.) of each axis of the input grid is entered in free format. See element 69 for an explanation of the input grid.
71. IN-PATTERN (Input Grid Pattern) - The pattern (rectangular, triangular, etc.) of the input grid is entered in free format. See element 69 for an explanation of the input grid.
72. IN-VAR (Input Variables) - The name of each type of initial data value supplied to the model is entered in free format. The input variables are data that may be changed by the model during a run.
73. IN-CONST (Input Constants) - The name of each constant value supplied to the model is entered in free format. Input constants are not changed by the model during a run, but may be changed by the operator during or between runs.

Elements 74-78 are identical to 69-73 respectively except that the information entered applies to output rather than input.

74. OUT-GRID (Output Grid) - The number of dimensions of the output grid is entered in free format. The output grid defines the locations of the points for which data values are supplied by the model.
75. OUT-AXES (Output Axes) - The name orientation of each axis of the output grid is entered in free format. See element 74 for an explanation of output grid.
76. OUT-PATTERN (Output Grid Pattern) - The pattern of the output grid is entered in free format. See element 74 of explanation of the output grid.
77. OUT-VAR (Output Variables) - The name of each type of data supplied by the model is entered in free format. These usually include the input variables (see element 72) altered by the model plus any new types of data generated by the model.
78. OUT-CONST (Output Constants) - The name of each constant output by the model is entered in free format. These will normally be the same as the input constants.

79. CALIBRATION (Calibration Remarks) - A brief description of the calibration requirements and procedures for the model is entered in free text. This element is an extension of the remarks records.

APPENDIX 2M

DIRECTORY OF OCEANOGRAPHIC MANAGEMENT INFORMATION
SYSTEM CONTACT POINTS

Functional Sponsor - Commander, Naval Oceanography Command 601-688-4326
NSTL Station FTS-494-4326
Bay St. Louis, MS 39522 A/V-485-4326

Mr. J.W. Reshew
N53, X4326

Functional Managers - Commander, Naval Oceanography Command 601-688-extension
NSTL Station FTS-494-extension
Bay St. Louis, MS 39522 A/V-485-extension

NOP Subset - Mr. R. Evans
N56, X4516

NOR Subset - Mr. J. Ownbey
N56, X4516

RVRS Subset - LCDR S. Schrobo
N321, X4890

OTIS Subset - Mr. W. Highlands
N554, X4254

ERS Subset - CDR J. DeBoer
N55, X4256

ARS Subset - LCDR T. Callahan
N341, X4890

Subject Matter Specialists - Naval Oceanographic Office 601-688-4497
NSTL Station FTS-494-4497
Bay St. Louis, MS 39522 A/V-485-4497

NOP Subset - Mr. C. Miller

NOR Subset - Mr. C. Miller

RVRS Subset - Mr. A. Stone

OTIS Subset - Mr. G. Miller

ERS Subset - Mr. R. Blumenthal

ARS Subset - Mr. P. Vinson

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NAVAL OCEANOGRAPHIC OFFICE NSTL STATION MS
ENVIRONMENTAL FILES AND DATA BASES. PART A. INTRODUCTION AND OC--ETC(U)
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N00-RP-36

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APPENDIX 2N

OCEANOGRAPHIC MANAGEMENT INFORMATION SYSTEM PUBLICATIONS

Rein, Richard L.	<u>The Oceanographic Environmental Reference Service Retrieval Program Users Guide</u> RP-31 Bay St. Louis, Mississippi: Naval Oceanographic Office, 1981
Stone, Andrew D.	<u>Research Vehicle Reference Service Interactive Retrieval Program Users Guide</u> , Bay St. Louis, Mississippi: Naval Oceanographic Office, 1980
Stone, Andrew D.	<u>Research Vehicle Reference Service Interactive Schedule Update Program Users Guide</u> , Bay St. Louis, Mississippi: Naval Oceanographic Office, 1980
Stone, Andrew D.	<u>Research Vehicle Reference Service Interactive Location Update Program Users Guide</u> , Bay St. Louis, Mississippi: Naval Oceanographic Office, 1980
Vinson, Philip S.	<u>The Acoustic Reference Service</u> RP-29 Bay St. Louis, Mississippi: Naval Oceanographic Office, 1980.

ENVIRONMENTAL FILE AND DATA BASE SUMMARY

FILE NAME Navy Oceanographic Program (NOP)		PERIOD OF COVERAGE From April 1980 until the present			
CUSTODIAN Carl W. Miller		TELEPHONE NO. 601-688-4497	ORGANIZATION Oceanographic Management Information System Staff		
REPOSITORY NSTL, Building 1000, Room 103		MEDIUM Magnetic disk with magnetic tape backup			
FILE SIZE 2000 records		ANNUAL GROWTH 10%			
SOURCES OF DATA DOD, DTIC, Civilian Organizations/ Contacts		INVENTORY NOP is a subset of OMIS.			
PLATFORM TYPE Not Applicable		TEMPORAL/SPATIAL RESOLUTION Not Applicable			
UPDATE INTERVAL Bi-Weekly		BACKLOG None			
AREA OF COVERAGE Worldwide					
DATA DESCRIPTION <p>This OMIS subset provides salient information on the many aspects of the Navy Oceanographic Program (NOP). This system functions as a management tool and addresses the full scope of Naval oceanography which includes Oceanography, Meteorology, and Mapping, Charting, and Geodesy (MC&G). Information is in program management format.</p>					
PARAMETER IDENTIFICATION					
NAME	METHOD	UNITS	TYPE	NO.	FREQUENCY
SECURITY CLASSIFICATION UNCLASSIFIED		AVAILABILITY UNRESTRICTED			
REMARKS <p>Requests are made to NOP Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, MS 39522, 601-688-4497.</p>					

ENVIRONMENTAL FILE AND DATA BASE SUMMARY

FILE NAME Naval Oceanographic Requirements (NOR)		PERIOD OF COVERAGE From April 1980 until the present			
CUSTODIAN Carl W. Miller		TELEPHONE NO. 601-688-4497	ORGANIZATION Oceanographic Management Information System Staff		
REPOSITORY NSTL, Building 1000, Room 103		MEDIUM Magnetic disk with magnetic tape backup			
FILE SIZE 1000 records		ANNUAL GROWTH 10%			
SOURCES OF DATA Department of Navy, COMNAVOCEANCOM		INVENTORY NOR is a subset of OMIS.			
PLATFORM TYPE Not Applicable		TEMPORAL/SPATIAL RESOLUTION Not Applicable			
UPDATE INTERVAL Quarterly		BACKLOG None			
AREA OF COVERAGE Worldwide					
DATA DESCRIPTION NOR provides the mechanism for identifying and tracking Navy requirements and facilitates the collection, analysis, prioritization, validation and indexing of requirements. NOR aids in the accountability of both informal and formal requirements and requests for services.					
PARAMETER IDENTIFICATION					
NAME	METHOD	UNITS	TYPE	NO.	FREQUENCY
SECURITY CLASSIFICATION UNCLASSIFIED		AVAILABILITY UNRESTRICTED			
REMARKS Requests are made to NOR Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, MS 39522, 601-688-4497.					

ENVIRONMENTAL FILE AND DATA BASE SUMMARY

FILE NAME Acoustic Reference Service (ARS)		PERIOD OF COVERAGE January 1941 to July 1981			
CUSTODIAN Philip S. Vinson		TELEPHONE NO. 601-688- 4497	ORGANIZATION Oceanographic Management Information System Staff		
REPOSITORY NSTL, UNIVAC Computer		MEDIUM Drum and Tape			
FILE SIZE 2000 Trks		ANNUAL GROWTH 11.5%			
SOURCES OF DATA International Journals, reports and symposiums		INVENTORY ARS is a subset of OMIS			
PLATFORM TYPE All research vehicles		TEMPORAL/SPATIAL RESOLUTION One degree squares; months			
UPDATE INTERVAL Monthly		BACKLOG 50 records			
AREA OF COVERAGE Worldwide ocean areas					
DATA DESCRIPTION The ARS reveals the existence of acoustic measurements from scientific papers, reports, models and data bases. Descriptive items include: type of measurement, frequencies, operation dates, coordinates, cognizant person or author, reference publication, agency address and telephone number					
PARAMETER IDENTIFICATION					
NAME	METHOD	UNITS	TYPE	NO.	FREQUENCY
Trans. loss				618	
Reverberation				512	
Bottom Loss				379	
Ambient noise				580	
Target detection					
Array evaluation					
Coherence					
SECURITY CLASSIFICATION UNCLASSIFIED		AVAILABILITY Distribution unlimited for basic version			
REMARKS A restricted edition is available to DOD and other approved agencies. Requests are made to ARS Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, MS 39522, 601-688-4497.					

ENVIRONMENTAL FILE AND DATA BASE SUMMARY

FILE NAME Research Vehicle Reference Service (RVRS)		PERIOD OF COVERAGE February 1979 to the present with some coverage into the upcoming year(s)			
CUSTODIAN Andrew D. Stone		TELEPHONE NO. 601-688-4497		ORGANIZATION Oceanographic Management Information System Staff	
REPOSITORY NSTL, Building 1000, Room 103		MEDIUM Magnetic disk with magnetic tape backup			
FILE SIZE 5000 records		ANNUAL GROWTH 10%			
SOURCES OF DATA Navy, Coast Guard, NOAA, EPA, NST, UNOLS, academic institutions & civilian commercial		INVENTORY RVRS is a subset of OMIS.			
PLATFORM TYPE organization Not Applicable		TEMPORAL/SPATIAL RESOLUTION Not Applicable			
UPDATE INTERVAL Daily, Weekly		BACKLOG None			
AREA OF COVERAGE Worldwide					
DATA DESCRIPTION To provide a point source for information on oceanographic research and survey platform assets within or available to the United States. Interactive retrieval and update programs for schedules, current location/missions and physical characteristics provide information to users and managers to identify asset availability and improve resource management. It is also intended to serve as a communications link within the oceanographic community and as a means of coordinating the operation of these vehicles among the Navy, other government and civilian organizations, and academic institutions involved in oceanographic research and surveys.					
PARAMETER IDENTIFICATION					
NAME	METHOD	UNITS	TYPE	NO.	FREQUENCY
SECURITY CLASSIFICATION UNCLASSIFIED		AVAILABILITY UNRESTRICTED			
REMARKS Requests for remote computer terminal access may be made through the Commander Naval Oceanography Command, NSTL Station, Bay St. Louis, MS 39529. Requests are made to RVRS Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO NSTL Station, Bay St. Louis, MS 39522, 601-688-4497.					

ENVIRONMENTAL FILE AND DATA BASE SUMMARY

FILE NAME Oceanographic Technology Information Service (OTIS)		PERIOD OF COVERAGE From 1958 until the present			
CUSTODIAN George H. Miller		TELEPHONE NO. 601-688-4497	ORGANIZATION Oceanographic Management Information System Staff		
REPOSITORY NAVO Computer System "B", NSTL, Building 1000, Room 103		MEDIUM Mass storage and mag tape; computer printouts			
FILE SIZE 1500 records 2000 pages of computer printout		ANNUAL GROWTH 800-1000 records added or updated			
SOURCES OF DATA Documents, journals, in-house files, user input		INVENTORY OTIS is a subset of OMIS			
PLATFORM TYPE Not Applicable		TEMPORAL/SPATIAL RESOLUTION Not Applicable			
UPDATE INTERVAL 50-60 records updated per month		BACKLOG None			
AREA OF COVERAGE Not Applicable					
DATA DESCRIPTION Measurement and sampling systems, associated hardware and instrumentation; mathematical, physical computerized models; data reduction and analysis techniques; facilities providing calibration, testing, data reduction and analysis, fabrication of hardware and other services; leading scientists, technicians and program coordinators involved in any of the above areas.					
PARAMETER IDENTIFICATION					
NAME	METHOD	UNITS	TYPE	NO.	FREQUENCY
SECURITY CLASSIFICATION UNCLASSIFIED		AVAILABILITY No restrictions with Department of Navy			
REMARKS The OTIS is a user-oriented data management system designed for easy retrieval of information based on selectable parameters. Information may be ob- tained from the OTIS either by requesting it of the Subject Matter Specialist or accessing the data base via remote terminal. A User's Guide is available on request. Requests are made to OTIS Subject Matter Specialist, OMIS, Code 5003,					

ENVIRONMENTAL FILE AND DATA BASE SUMMARY

FILE NAME Oceanographic Environmental Reference Service (OERS)		PERIOD OF COVERAGE 1960 to present			
CUSTODIAN Richard Blumenthal		TELEPHONE NO. 601-688-4497	ORGANIZATION Oceanographic Management Information System Staff		
REPOSITORY Tape Library, Computer Center, NSTL, Building 1000		MEDIUM Digital Magnetic Tape			
FILE SIZE Can reside on one tape, 1740 data collection efforts 11,000 references to indexed data		ANNUAL GROWTH 200 data collection efforts 1000 references to indexed data			
SOURCES OF DATA NAVO, Navy and UNOLS cruises		INVENTORY OERS is an internal subset of OMIS/ERS.			
PLATFORM TYPE Ships, aircraft, buoys, current meter array, data files		TEMPORAL/SPATIAL RESOLUTION Not Applicable			
UPDATE INTERVAL Continuous		BACKLOG 20 to 50 collection efforts			
AREA OF COVERAGE Oceans and water bodies worldwide					
DATA DESCRIPTION Inventories of NAVOCEANO environmental data files on a 10-degree basis. Information on cruises and other data collection efforts, points-of- contact for data collected, miles of underway data, and specific locations and amount of station data collected cross referenced by data type, WMO squares, water bodies, and cruise or collection effort.					
PARAMETER IDENTIFICATION					
NAME	METHOD	UNITS	TYPE	NO.	FREQUENCY
SECURITY CLASSIFICATION UNCLASSIFIED		AVAILABILITY NO RESTRICTIONS			
REMARKS Files are a DMS-1100 data base with interactive retrieval capability in tutorial mode. Requests are made to OERS Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, MS 39522, 601-688-4497.					

ENVIRONMENTAL FILE AND DATA BASE SUMMARY

FILE NAME Coastal Environmental Reference Service (CERS)		PERIOD OF COVERAGE 1940 to present			
CUSTODIAN Richard Blumenthal		TELEPHONE NO. 601-688-4497	ORGANIZATION Oceanographic Management Information System Staff		
REPOSITORY Tape Library, Computer Center, NSTL, Building 1000		MEDIUM Digital Magnetic Tape			
FILE SIZE 206 coastal area studies 4200 site specific records		ANNUAL GROWTH CERS is a subset of OMIS/ERS			
SOURCES OF DATA Original subset developed by University of Virginia		INVENTORY CERS is a subset of OMIS/ERS			
PLATFORM TYPE Ships, aircraft, buoys, current meters, data files		TEMPORAL/SPATIAL RESOLUTION Not Applicable			
UPDATE INTERVAL 3 months		BACKLOG 0% to 5%			
AREA OF COVERAGE Mainly United States coastal areas					
DATA DESCRIPTION Reports on completed beach studies, data summaries of primary environmental parameters for specific locations, and information about computer models on beach erosion processes.					
PARAMETER IDENTIFICATION					
NAME	METHOD	UNITS	TYPE	NO.	FREQUENCY
Waves					
Tides					
Currents					
Weather Parameters					
Radiation					
Sediments					
Beach Morphology					
SECURITY CLASSIFICATION UNCLASSIFIED		AVAILABILITY NO RESTRICTIONS			
REMARKS File is a DMS-1100 data base with interactive retrieval capability in tutorial mode. Requests are made to CERS Subject Matter Specialist, OMIS, Code 5003, NAVOCEANO, NSTL Station, Bay St. Louis, MS 39522, 601-688-4497.					

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